

=> fil reg

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STRUCTURE FILE UPDATES: 21 JAN 2007 HIGHEST RN 917948-20-0
 DICTIONARY FILE UPDATES: 21 JAN 2007 HIGHEST RN 917948-20-0

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

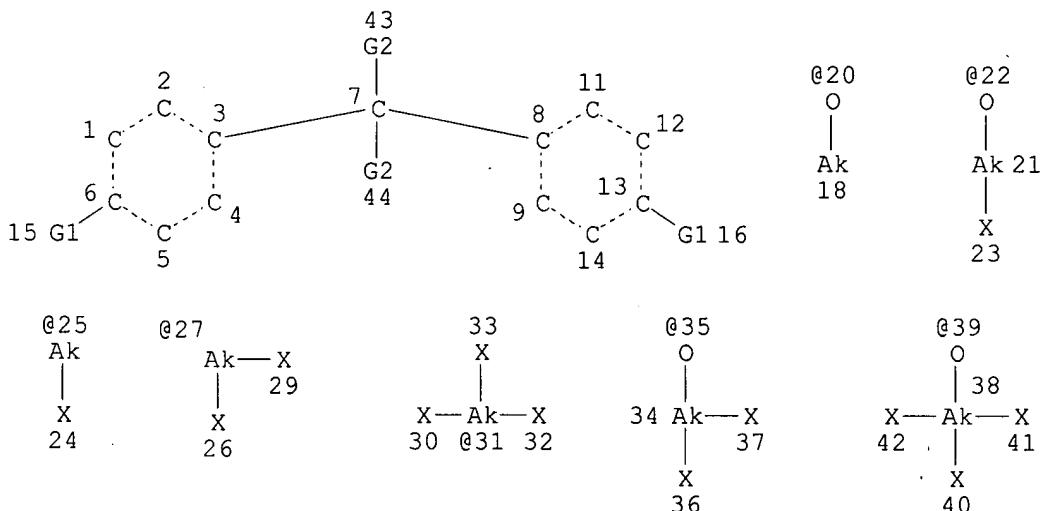
=> d sta que 165

L4 SCR 2039 OR 2050 OR 2049 OR 2053 OR 2052 OR 2051 OR 2043 O

R 2054

L41 SCR 2127

L59 STR



VAR G1=OH/20/AK/22/25/27/31/35/39/X

VAR G2=AK/CB

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 40

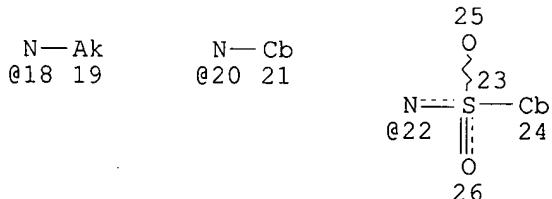
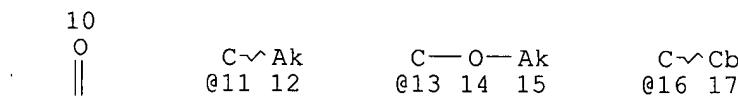
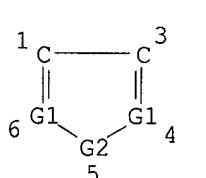
STEREO ATTRIBUTES: NONE

L63 300 SEA FILE=REGISTRY CSS FUL L59 NOT (L4 OR L41)
L65 221 SEA FILE=REGISTRY ABB=ON PLU=ON L63 NOT IDS/CI

=> d sta que 160

L4 SCR 2039 OR 2050 OR 2049 OR 2053 OR 2052 OR 2051 OR 2043 O
R 2054
L9 54 SEA FILE=REGISTRY ABB=ON PLU=ON (463-79-6/BI OR 10377-51-2/BI
OR 105-58-8/BI OR 108-32-7/BI OR 108-88-3/BI OR 117-80-6/BI
OR 1192-62-7/BI OR 1193-79-9/BI OR 126-33-0/BI OR 127-63-9/BI
OR 131651-65-5/BI OR 13243-65-7/BI OR 1330-20-7/BI OR 14024-11-
4/BI OR 14283-07-9/BI OR 162684-16-4/BI OR 16851-82-4/BI OR
18424-17-4/BI OR 1889-59-4/BI OR 21324-40-3/BI OR 271-89-6/BI
OR 27359-10-0/BI OR 28122-14-7/BI OR 28452-93-9/BI OR 29935-35-
1/BI OR 33454-82-9/BI OR 35363-40-7/BI OR 3680-02-2/BI OR
37220-89-6/BI OR 39300-70-4/BI OR 4265-27-4/BI OR 4437-85-8/BI
OR 462-06-6/BI OR 524-42-5/BI OR 5535-43-3/BI OR 5535-48-8/BI
OR 56525-42-9/BI OR 616-38-6/BI OR 620-32-6/BI OR 623-53-0/BI
OR 623-96-1/BI OR 625-86-5/BI OR 67-71-0/BI OR 693-98-1/BI OR
71-43-2/BI OR 7439-93-2/BI OR 7447-41-8/BI OR 7474-83-1/BI OR
77-77-0/BI OR 7791-03-9/BI OR 80-05-7/BI OR 90076-65-6/BI OR
95-15-8/BI OR 96-49-1/BI)

L41 SCR 2127
L47 STR



VAR G1=C/11/13/16/7

VAR G2=O/N/S/18/20/22

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFALUT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L52 787172 SEA FILE=REGISTRY ABB=ON PLU=ON (16.138.5 OR 16.136.9)/RID
NOT ((D OR T)/ELS OR 11C# OR 13C# OR 14C# OR C11# OR C13# OR
C14# OR 170# OR 180# OR SQL/FA OR (PMS OR IDS OR MXS OR
IDS)/CI)

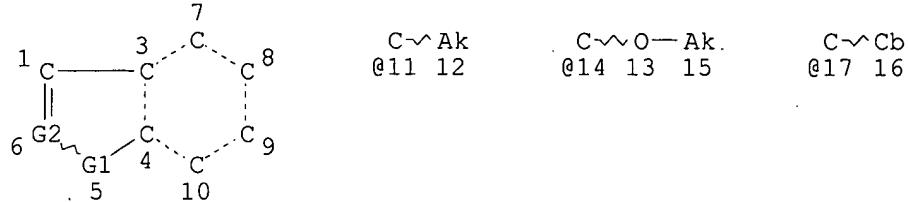
L54 2023 SEA FILE=REGISTRY SUB=L52 CSS FUL L47 NOT (L4 OR L41)

L55 637946 SEA FILE=REGISTRY ABB=ON PLU=ON 16.145.3/BID NOT ((D OR

T) /ELS OR 11C# OR 13C# OR 14C# OR C11# OR C13# OR C14# OR 17O#
 OR 18O# OR SQL/FA OR (PMS OR IDS OR MXS OR IDS)/CI)
 L57 1024 SEA FILE=REGISTRY SUB=L55 CSS FUL L47 NOT (L4 OR L41)
 L58 3047 SEA FILE=REGISTRY ABB=ON PLU=ON (L54 OR L57)
 L60 4 SEA FILE=REGISTRY ABB=ON PLU=ON L9 AND L58

=> d sta que 113

L1 STR



VAR G1=O/N/S

VAR G2=C/11/14/17

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 16

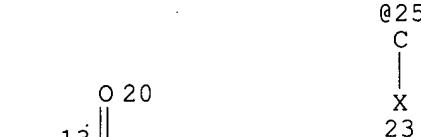
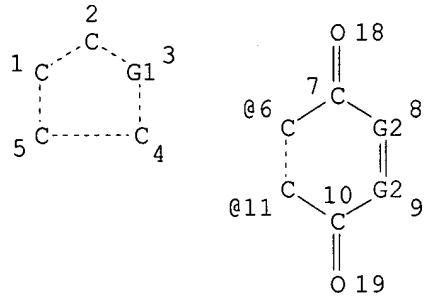
STEREO ATTRIBUTES: NONE

L5 636929 SEA FILE=REGISTRY ABB=ON PLU=ON (333.151.57 OR 333.246.11 OR
 333.200.32) /RID NOT SQL/FA
 L11 1249 SEA FILE=REGISTRY SUB=L5 CSS FUL L1
 L12 545 SEA FILE=REGISTRY ABB=ON PLU=ON L11 AND NC>=2
 L13 704 SEA FILE=REGISTRY ABB=ON PLU=ON L11 NOT L12

=> d sta que 132

L9 54 SEA FILE=REGISTRY ABB=ON PLU=ON (463-79-6/B1 OR 10377-51-2/B1
 OR 105-58-8/B1 OR 108-32-7/B1 OR 108-88-3/B1 OR 117-80-6/B1
 OR 1192-62-7/B1 OR 1193-79-9/B1 OR 126-33-0/B1 OR 127-63-9/B1
 OR 131651-65-5/B1 OR 13243-65-7/B1 OR 1330-20-7/B1 OR 14024-11-
 4/B1 OR 14283-07-9/B1 OR 162684-16-4/B1 OR 16851-82-4/B1 OR
 18424-17-4/B1 OR 1889-59-4/B1 OR 21324-40-3/B1 OR 271-89-6/B1
 OR 27359-10-0/B1 OR 28122-14-7/B1 OR 28452-93-9/B1 OR 29935-35-
 1/B1 OR 33454-82-9/B1 OR 35363-40-7/B1 OR 3680-02-2/B1 OR
 37220-89-6/B1 OR 39300-70-4/B1 OR 4265-27-4/B1 OR 4437-85-8/B1
 OR 462-06-6/B1 OR 524-42-5/B1 OR 5535-43-3/B1 OR 5535-48-8/B1
 OR 56525-42-9/B1 OR 616-38-6/B1 OR 620-32-6/B1 OR 623-53-0/B1
 OR 623-96-1/B1 OR 625-86-5/B1 OR 67-71-0/B1 OR 693-98-1/B1 OR
 71-43-2/B1 OR 7439-93-2/B1 OR 7447-41-8/B1 OR 7474-83-1/B1 OR
 77-77-0/B1 OR 7791-03-9/B1 OR 80-05-7/B1 OR 90076-65-6/B1 OR
 95-15-8/B1 OR 96-49-1/B1)

L16 4 SEA FILE=REGISTRY ABB=ON PLU=ON L9 AND C6-C6/ES
 L23 STR



VAR G1=6-2 11-4/12-2 17-4

VAR G2=C/25

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE

L25 52177 SEA FILE=REGISTRY ABB=ON PLU=ON (591.49.53 OR 591.49.52)/RID

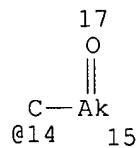
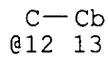
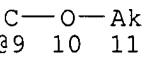
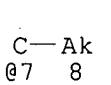
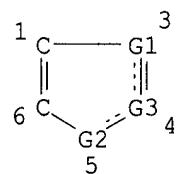
L27 345 SEA FILE=REGISTRY SUB=L25 CSS FUL L23
 L28 307 SEA FILE=REGISTRY ABB=ON PLU=ON L27 AND (IDS/CI OR PMS/CI OR NC>=2)
 L29 38 SEA FILE=REGISTRY ABB=ON PLU=ON L27 NOT L28
 L30 30 SEA FILE=REGISTRY ABB=ON PLU=ON L29 NOT ((D OR T)/ELS OR 11C# OR 13C# OR 14C# OR C11# OR C13# OR C14# OR 170# OR 180#))
 L31 29 SEA FILE=REGISTRY ABB=ON PLU=ON L30 NOT NAPHTHALENYL
 L32 29 SEA FILE=REGISTRY ABB=ON PLU=ON (L16 OR L31)

=> d sta que 146

L4 SCR 2039 OR 2050 OR 2049 OR 2053 OR 2052 OR 2051 OR 2043 O

R 2054

L33 STR



N—Ak
 @18 19

VAR G1=O/N/S

VAR G2=N/18/O/S

VAR G3=C/7/9/12/14

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L38 1852800 SEA FILE=REGISTRY ABB=ON PLU=ON (16.195 OR 16.239 OR
 16.299)/RID
 L41 SCR 2127
 L43 1594677 SEA FILE=REGISTRY ABB=ON PLU=ON L38 NOT (SQL/FA OR (PMS OR
 CCS OR MNS OR IDS)/CI)
 L45 545 SEA FILE=REGISTRY SUB=L43 CSS FUL L33 NOT (L4 OR L41)
 L46 532 SEA FILE=REGISTRY ABB=ON PLU=ON L45 NOT ((D OR T)/ELS OR
 11C# OR 13C# OR 14C# OR C11# OR C13# OR C14# OR 170# OR 180#
 OR LABELED OR ION)

=> d his

(FILE 'HOME' ENTERED AT 10:30:35 ON 22 JAN 2007)
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 10:30:41 ON 22 JAN 2007

L1 STR
 L2 50 S L1 SAM
 L3 3 S L1 CSS SAM
 L4 SCR 2039 OR 2050 OR 2049 OR 2053 OR 2052 OR 2051 OR 2043 OR 205
 L5 636929 S (333.151.57 OR 333.246.11 OR 333.200.32)/RID NOT SQL/FA
 L6 0 S L1 CSS SAM SUB=L5
 L7 50 S L1 SAM SUB=L5

FILE 'HCAPLUS' ENTERED AT 10:37:32 ON 22 JAN 2007

L8 1 S US20040185347/PN OR (US2003-658272# OR KR2003-15749)/AP, PRN
 SEL RN

FILE 'REGISTRY' ENTERED AT 10:38:54 ON 22 JAN 2007

L9 54 S E1-E54
 L10 3 S L9 AND L5
 L11 1249 S L1 CSS FUL SUB=L5
 SAV L11 LAURA658C/A
 L12 545 S L11 AND NC>=2
 L13 704 S L11 NOT L12
 L14 STR
 L15 0 S L14 CSS SAM
 L16 4 S L9 AND C6-C6/ES
 L17 STR L14
 L18 0 S L17 CSS SAM
 L19 STR L14
 L20 0 S L19 CSS SAM
 L21 STR L19
 L22 0 S L21 CSS SAM
 L23 STR L21
 L24 1 S L23 CSS SAM
 L25 52177 S (591.49.53 OR 591.49.52)/RID
 L26 17 S L23 CSS SAM SUB=L25
 L27 345 S L23 CSS FUL SUB=L25
 SAV L27 LAURA658D/A
 L28 307 S L27 AND (IDS/CI OR PMS/CI OR NC>=2)

L29 38 S L27 NOT L28
 L30 30 S L29 NOT ((D OR T)/ELS OR 11C# OR 13C# OR 14C# OR C11# OR C13#
 L31 29 S L30 NOT NAPHTHALENYL
 L32 29 S L16,L31
 L33 STR
 L34 0 S L33 CSS SAM
 L35 1434642 S (NCNC2 OR NCOC2 OR NCSC2)/ES AND 1/NC NOT (SQL/FA OR (MXS OR
 L36 0 S L33 CSS SAM SUB=L35
 L37 1 S L9 AND (NCNC2 OR NCOC2 OR NCSC2)/ES
 L38 1852800 S (16.195 OR 16.239 OR 16.299)/RID
 L39 4 S L33 CSS SAM SUB=L38
 L40 1 S L33 NOT L4 CSS SAM SUB=L38
 L41 SCR 2127
 L42 0 S L33 NOT (L4 OR L41) CSS SAM SUB=L38
 L43 1594677 S L38 NOT (SQL/FA OR (PMS OR CCS OR MNS OR IDS)/CI)
 L44 0 S L33 NOT (L4 OR L41) CSS SAM SUB=L43
 L45 545 S L33 NOT (L4 OR L41) CSS FUL SUB=L43
 SAV L45 LAURA658E/A
 L46 532 S L45 NOT ((D OR T)/ELS OR 11C# OR 13C# OR 14C# OR C11# OR C13#
 L47 STR
 L48 6 S L9 AND (NC4 OR OC4 OR SC4)/ES
 L49 4 S L48 NOT SC4/ES
 L50 4 S L47 CSS SAM
 L51 1 S L47 NOT (L4 OR L41) CSS SAM
 L52 787172 S (16.138.5 OR 16.136.9)/RID NOT ((D OR T)/ELS OR 11C# OR 13C#
 L53 1 S L47 NOT (L4 OR L41) CSS SAM SUB=L52
 L54 2023 S L47 NOT (L4 OR L41) CSS FUL SUB=L52
 L55 637946 S 16.145.3/RID NOT ((D OR T)/ELS OR 11C# OR 13C# OR 14C# OR C11
 L56 0 S L47 NOT (L4 OR L41) CSS SAM SUB=L55
 L57 1024 S L47 NOT (L4 OR L41) CSS FUL SUB=L55
 L58 3047 S L54,L57
 SAV L58 LAURA658B/A
 L59 STR
 L60 4 S L9 AND L58
 L61 50 S L59 CSS SAM
 L62 1 S L59 NOT (L4 OR L41) CSS SAM
 L63 300 S L59 NOT (L4 OR L41) CSS FUL
 SAV L63 LAURA658A/A
 L64 1 S L9 AND L63
 L65 221 S L63 NOT IDS/CI
 L66 1569 S L63,L65,L49,L60,L10,L13,L32,L37,L46
 SAV L66 LAURA658F/A
 L67 41 S L9 NOT L66
 L68 15 S L67 AND LI/ELS
 L69 12 S L68 NOT TIS/CI
 L70 26 S L67 NOT L68
 L71 11 S L70 AND S/ELS
 L72 15 S L70 NOT L71
 L73 3 S L68 NOT L69

FILE 'HCAPLUS' ENTERED AT 11:28:21 ON 22 JAN 2007

L74 73829 S L66
 L75 500 S L74 AND L69
 L76 3 S L74 AND L73
 L77 500 S L75,L76

FILE 'REGISTRY' ENTERED AT 11:28:59 ON 22 JAN 2007

L78 6 S LI/MF NOT MASS

FILE 'HCAPLUS' ENTERED AT 11:29:04 ON 22 JAN 2007

L79 227 S L78 AND L74
 L80 528 S L77, L79
 E ELECTROLYTE/CT
 L81 3 S E3
 L82 43412 S E18, E23, E26, E27
 L83 165 S E42
 L84 4538 S E45-E49
 E E18+ALL
 L85 82020 S E4, E10, E12, E14, E23, E24
 E BATTERIES/CT
 E E3+ALL
 L86 119729 S E3 OR E2+OLD, NT OR E3+OLD, NT OR E4+OLD, NT OR E5+OLD, NT
 E E4+ALL
 L87 21230 S E7+OLD, NT
 E SECONDARY BATTERIES/CT
 E E3+ALL
 L88 53477 S E7+OLD, NT
 E E28+ALL
 L89 135941 S E3 OR E4+OLD, NT
 L90 115 S L80 AND L81-L89
 L91 46 S L90 AND L72
 L92 2 S L91 AND PY<=2003 NOT P/DT
 L93 28 S L91 AND (PD<=20030313 OR PRD<=20030313 OR AD<=20030313) AND
 L94 30 S L92, L93
 L95 90 S L80 AND L72
 L96 22 S L95 AND PY<=2003 NOT P/DT
 L97 28 S L94 AND (PD<=20030313 OR PRD<=20030313 OR AD<=20030313) AND
 L98 50 S L96, L97
 L99 20 S L98 NOT L94
 E BATTERY/CT
 L100 51101 S E4+OLD, NT OR E5+OLD, NT OR E6+OLD, NT OR E7
 E E9+ALL
 L101 8752 S E2+OLD, NT OR E3+OLD, NT OR E4+OLD, NT
 E E3+ALL
 E E6+ALL
 L102 35302 S E3+NT
 L103 50 S L94, L98
 L104 30 S L103 AND L81-L89, L100-L102
 L105 20 S L103 NOT L104
 L106 3 S L104 AND SAMSUN?/PA, CS
 L107 3 S L104 AND CHEIL?/PA, CS
 E KIM/AU
 L108 45 S E3
 E KIM J/AU
 L109 2657 S E3, E14-E18
 E KIM JIN/AU
 L110 162 S E3
 E KIM JIN H/AU
 L111 134 S E3, E11
 E KIM JINHEE/AU
 L112 86 S E3
 E KIM JIN S/AU
 L113 13 S E3
 L114 218 S E41
 E KIM JINS/AU
 L115 2 S E16
 E KIM NAME/AU
 L116 345 S E4
 E JIN/AU
 L117 1 S E3

L118 E JIN H/AU
 156 S E3
 L119 24 S E16
 E KIN HEE/AU
 E JIN HEE/AU
 E JIN SUNG/AU
 E JINHEE/AU
 E JINSUNG/AU
 E JIN NAME/AU
 L120 7 S E4
 E HWANG/AU
 L121 2 S E3
 E HWANG S/AU
 L122 96 S E3
 L123 112 S E17
 E HWANG SANG/AU
 L124 1 S E3
 L125 17 S E26
 E HWANG SANGMOON/AU
 E HWANG NAME/AU
 L126 7 S E4
 E SANG/AU
 L127 2 S E3
 E SANG M/AU
 L128 14 S E3
 L129 1 S E25
 E SANGMOON/AU
 E PAIK/AU
 E PAIK M/AU
 L130 5 S E3, E7
 L131 7 S E13, E14
 E MEEN/AU
 E KIM H/AU
 L132 1207 S E3
 L133 1225 S E39, E40
 E KIM HAK/AU
 L134 17 S E3
 E KIM HAK S/AU
 L135 16 S E3
 L136 62 S E17
 E KIM HAKSOO/AU
 L137 1 S E4
 E HAK/AU
 E HAK S/AU
 L138 3 S E3
 E HAKSOO/AU
 E HAK NAME/AU
 L139 1 S L104 AND L108-L138
 L140 5 S L8, L139, L106, L107
 L141 5 S L140 AND (BATTERY OR ?ANOD? OR ?CATHOD? OR ?ELECTROLY? OR SOL
 L142 25 S L104 NOT L141
 L143 2 S L71 AND L141
 L144 1 S L71 AND L142
 L145 30 S L141-L144

FILE 'REGISTRY' ENTERED AT 11:46:55 ON 22 JAN 2007

FILE 'HCAPLUS' ENTERED AT 11:46:55 ON 22 JAN 2007

L146 TRA L145 1- RN : 1866 TERMS

FILE 'REGISTRY' ENTERED AT 11:46:56 ON 22 JAN 2007

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L147    1866 SEA L146
L148      24 S L147 AND L66
L149      15 S L147 AND L68,L69,L78
L150      15 S L147 AND L72
L151      11 S L147 AND L71
L152      21 S L147 AND LI/ELS NOT L149
L153      24 S L147 AND ?LITHIUM?/CNS NOT L149
L154      24 S L152,L153
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FILE 'HCAPLUS' ENTERED AT 11:50:24 ON 22 JAN 2007

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L155      12 S L154 AND L145
L156      30 S L149 AND L145
L157      30 S L155,L156
L158      5 S L157 AND L141
          SEL RN L158 5
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FILE 'REGISTRY' ENTERED AT 11:53:29 ON 22 JAN 2007

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L159      74 S E1-E74
L160      73 S L159 NOT L66
L161      66 S L160 NOT L73,L69,L154
L162      62 S L161 NOT L72
L163      61 S L162 NOT L71
L164      5 S L163 AND S/ELS
L165      56 S L163 NOT L164
L166      2 S L165 AND OCOC2/ES
L167      5 S L165 AND OC4/ES
L168      2 S L167 AND (C4H4O OR C5H6O)
L169      3 S L167 NOT L168
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FILE 'HCAPLUS' ENTERED AT 11:58:21 ON 22 JAN 2007

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L170      150 S L168 AND (L68,L69,L78)
L171      90 S L170 AND PY<=2003 NOT P/DT
L172      43 S L170 AND (PD<=20030313 OR PRD<=20030313 OR AD<=20030313) AND
L173      133 S L171,L172
L174      73 S L173 AND (L72,L169)
L175      51 S L174 AND L81-L89,L100-L102
L176      59 S L173 AND BATTERY
L177      89 S L175,L176,L157,L158
L178      5 S L177 AND (SAMSUN? OR CHEIL?)/PA,CS
L179      1 S L177 AND L108-L138
L180      5 S L178,L179
L181      84 S L177 NOT L180
L182      38 S L181 NOT P/DT
L183      46 S L181 NOT L182
L184      46 S L183 AND L66,L168
L185      46 S L184 AND (L68,L78,L154 OR ?LITHIUM? OR LI)
L186      38 S L184,L185 AND (L72 OR L169 OR L150)
L187      8 S L185 NOT L186
L188      43 S L180,L186
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FILE 'REGISTRY' ENTERED AT 12:03:44 ON 22 JAN 2007

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=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 12:05:12 ON 22 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 22 Jan 2007 VOL 146 ISS 5
 FILE LAST UPDATED: 21 Jan 2007 (20070121/ED)

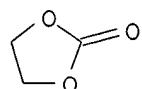
New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

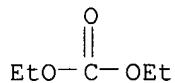
=> d 1188 bib abs hitstr retable tot

L188 ANSWER 1 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 2006:776339 HCPLUS
 DN 145:252320
 TI Nonaqueous **electrolyte** solution for secondary **lithium battery**
 IN Jun, Jong Ho; Kim, Hak Su; Kim, Jong Seop; Yang, Ho Seok
 PA Cheil Industries Inc., S. Korea
 SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
 CODEN: KRXXA7
 DT Patent
 LA Korean
 FAN.CNT 1

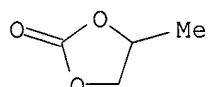
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2004080155	A	20040918	KR 2003-15029	20030311 <--
PRAI	KR 2003-15029		20030311 <--		
AB	A nonaq. electrolyte solution for a secondary lithium battery is provided, to improve electrochem. reactivity and stability to overcharge, thereby allowing a battery pack to be miniaturized by using no protection circuit or protection device. The electrolyte solution comprises 100 weight parts organic solvent mixture which consists of a cyclic carbonate-based organic solvent and a linear carbonate-based organic solvent and contains 0.8-2 M Li salt; and 0.1-10.0 weight parts of a halothionaphthene derivative				
IT	96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 21324-40-3, Lithium hexafluorophosphate 35363-40-7, Ethyl propyl carbonate 56525-42-9, Methyl propyl carbonate				
	RL: DEV (Device component use); USES (Uses) (electrolyte solns. containing thionaphthene derivs. for secondary lithium batteries)				
RN	96-49-1 HCPLUS				
CN	1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)				



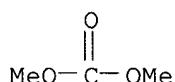
RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



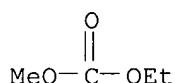
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



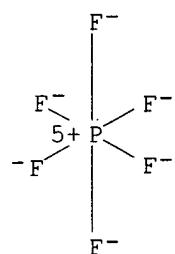
RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 623-53-0 HCAPLUS
 CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)

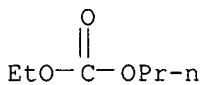


RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

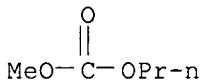


● Li⁺

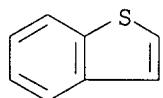
RN 35363-40-7 HCAPLUS
 CN Carbonic acid, ethyl propyl ester (7CI, 9CI) (CA INDEX NAME)



RN 56525-42-9 HCAPLUS
 CN Carbonic acid, methyl propyl ester (7CI, 9CI) (CA INDEX NAME)



IT 95-15-8D, Thionaphthene, halo derivs.
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrolyte solns. containing thionaphthene derivs. for
 secondary lithium batteries)
 RN 95-15-8 HCAPLUS
 CN Benzo[b]thiophene (8CI, 9CI) (CA INDEX NAME)



(3)

L188 ANSWER 2 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2006:745637 HCAPLUS
 DN 145:296106
 TI Nonaqueous electrolyte solution and secondary battery
 containing the solution
 IN Kim, Hak Su; Kim, Jong Seop; Park, Myeong Guk; Yang, Ho Seok
 PA Cheil Industries Inc., S. Korea
 SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
 CODEN: KRXXA7
 DT Patent
 LA Korean
 FAN.CNT 1

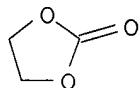
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 2004061572	A	20040707	KR 2002-87845	20021231 <--
PRAI KR 2002-87845		20021231 <--		

 AB A nonaq. electrolyte solution and a secondary battery
 containing the electrolyte solution are provided to reduce the
 generation of gas at a high temperature (85°) remarkably, thereby
 preventing the swelling due to the generation of gas of a battery
 and improving the capacity storage at a high temperature. The
 electrolyte solution has a Li salt dissolved in a
 carbonate-based organic solvent mixture; and 0.1-10 weight parts of a
 1-phenylsulfonyl pyrrole derivative or 1-phenylsulfonyl thiophene derivative
 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
 108-32-7, Propylene carbonate 616-38-6, Dimethyl
 carbonate 623-53-0, Ethyl methyl carbonate 21324-40-3,
 Lithium hexafluorophosphate 56525-42-9, Methyl propyl
 carbonate
 RL: DEV (Device component use); USES (Uses)

(electrolyte solns. containing phenylsulfonyl pyrrole derivs. or phenylsulfonyl thiophene derivs. for secondary batteries)

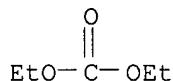
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



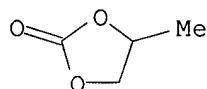
RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



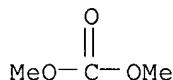
RN 108-32-7 HCPLUS

CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



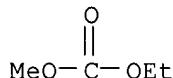
RN 616-38-6 HCPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



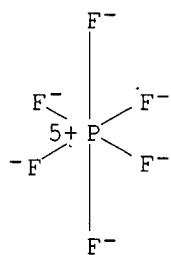
RN 623-53-0 HCPLUS

CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



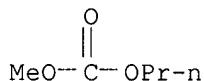
RN 21324-40-3 HCPLUS

CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

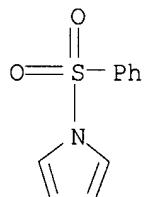


● Li⁺

RN 56525-42-9 HCAPLUS
 CN Carbonic acid, methyl propyl ester (7CI, 9CI) (CA INDEX NAME)



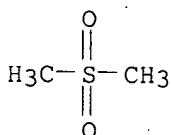
IT 16851-82-4D, 1-Phenylsulfonyl pyrrole, derivs.
 RL: MOA (Modifier or additive use); USES (Uses)
 (electrolyte solns. containing phenylsulfonyl pyrrole derivs. or
 phenylsulfonyl thiophene derivs. for secondary batteries)
 RN 16851-82-4 HCAPLUS
 CN 1H-Pyrrole, 1-(phenylsulfonyl)- (9CI) (CA INDEX NAME)



(2)

L188 ANSWER 3 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2004:753254 HCAPLUS
 DN 141:228183
 TI A nonaqueous electrolyte for lithium secondary
battery
 IN Kim, Jin-Hee; Kim, Jin-Sung; Hwang, Sang-Moon
 ; Paik, Meen-Seon; Kim, Hak-Soo
 PA Samsung SDI Co., Ltd., S. Korea; Cheil Industries Inc.
 SO Eur. Pat. Appl., 33 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1
 PATENT NO. KIND DATE APPLICATION NO. DATE
 ----- ----- ----- -----
 PI EP 1458048 A1 20040915 EP 2003-90262 20030821 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 KR 2004080775 A 20040920 KR 2003-15749 20030313 <--
 JP 2005108439 A 20050421 JP 2003-183239 20030626 <--
 CN 1531134 A 20040922 CN 2003-155332 20030827 <--
 US 2004185347 A1 20040923 US 2003-658272 20030910 <--
 PRAI KR 2003-15749 A 20030313 <--
 OS MARPAT 141:228183
 AB An **electrolyte** for a **lithium secondary battery**
 includes **lithium salts**, a nonaq. organic **solvent**, and
 additive compds. The additive compds. added to the **electrolyte**
 of the present invention decompose earlier than the organic **solvent**
 to form a conductive polymer layer on the surface of a pos. electrode, and
 prevent decomposition of the organic **solvent**. Accordingly, the
electrolyte inhibits gas generation caused by decomposition of the organic
solvent at initial charging, and thus reduces an increase of
 internal pressure and swelling during high temperature storage, and also
 improves safety of the **battery** during overcharge.
 IT 67-71-0, Methylsulfone 71-43-2, Benzene, uses
 77-77-0, Vinylsulfone 96-49-1, Ethylene carbonate
 105-58-8, Diethyl carbonate 108-32-7, Propylene
 carbonate 108-88-3, Toluene, uses 126-33-0,
 Tetramethylene sulfone 127-63-9, Phenylsulfone 462-06-6
 , Fluorobenzene 463-79-6D, Carbonic acid, chain ester
 616-38-6, Dimethyl carbonate 620-32-6, Benzylsulfone
 623-53-0, Methyl ethyl carbonate 623-96-1, Dipropyl
 carbonate 1330-20-7, Xylene, uses 1889-59-4,
 Ethylvinylsulfone 3680-02-2, Methylvinylsulfone
 4437-85-8, Butylene carbonate 5535-43-3, m-ChloroPhenyl
 vinyl sulfone 5535-48-8, Phenylvinylsulfone 7439-93-2,
 Lithium, uses 7447-41-8, Lithium chloride
 (LiCl), uses 7791-03-9, Lithium perchlorate
 10377-51-2, Lithium iodide 14024-11-4,
 Aluminum lithium chloride AlLiCl4 14283-07-9,
 Lithium tetrafluoroborate 18424-17-4, Lithium
 hexafluoroantimonate 21324-40-3, Lithium
 hexafluorophosphate 27359-10-0, Trifluorotoluene
 28122-14-7, p-FluoroPhenyl vinyl sulfone 28452-93-9,
 Butadiene sulfone 29935-35-1, Lithium
 hexafluoroarsenate 33454-82-9, Lithium triflate
 35363-40-7, Ethyl propyl carbonate 37220-89-6, Aluminum
 lithium oxide 39300-70-4, Lithium nickel oxide
 56525-42-9, Methyl propyl carbonate 90076-65-6
 131651-65-5, Lithium nonafluorobutanesulfonate
 162684-16-4, Lithium manganese nickel oxide
 RL: DEV (Device component use); USES (Uses)
 (nonaq. **electrolyte** for **lithium secondary**
battery)
 RN 67-71-0 HCPLUS
 CN Methane, sulfonylbis- (9CI) (CA INDEX NAME)

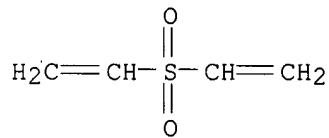


RN 71-43-2 HCPLUS

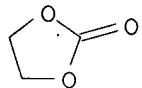
CN Benzene (8CI, 9CI) (CA INDEX NAME)



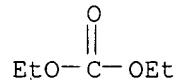
RN 77-77-0 HCAPLUS
 CN Ethene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



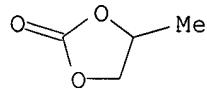
RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



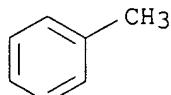
RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



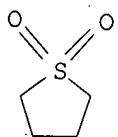
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



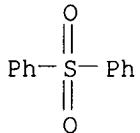
RN 108-88-3 HCAPLUS
 CN Benzene, methyl- (9CI) (CA INDEX NAME)



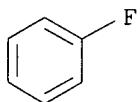
RN 126-33-0 HCAPLUS
 CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)



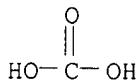
RN 127-63-9 HCAPLUS
 CN Benzene, 1,1'-sulfonylbis- (9CI) (CA INDEX NAME)



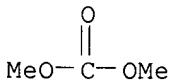
RN 462-06-6 HCAPLUS
 CN Benzene, fluoro- (8CI, 9CI) (CA INDEX NAME)



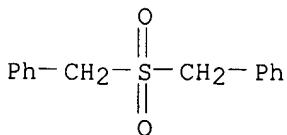
RN 463-79-6 HCAPLUS
 CN Carbonic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



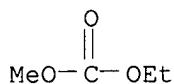
RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



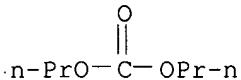
RN 620-32-6 HCAPLUS
 CN Benzene, 1,1'-(sulfonylbis(methylene))bis- (9CI) (CA INDEX NAME)



RN 623-53-0 HCAPLUS
 CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 623-96-1 HCAPLUS
 CN Carbonic acid, dipropyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

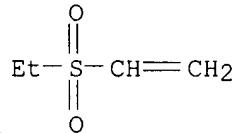


RN 1330-20-7 HCAPLUS
 CN Benzene, dimethyl- (9CI) (CA INDEX NAME)

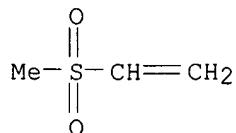


2 (D1-Me)

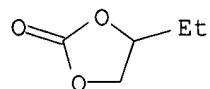
RN 1889-59-4 HCAPLUS
 CN Ethene, (ethylsulfonyl)- (9CI) (CA INDEX NAME)



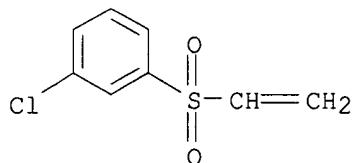
RN 3680-02-2 HCAPLUS
 CN Ethene, (methylsulfonyl)- (9CI) (CA INDEX NAME)



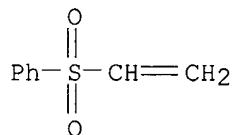
RN 4437-85-8 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-ethyl- (9CI) (CA INDEX NAME)



RN 5535-43-3 HCAPLUS
 CN Benzene, 1-chloro-3-(ethenylsulfonyl)- (9CI) (CA INDEX NAME)



RN 5535-48-8 HCAPLUS
 CN Benzene, (ethenylsulfonyl)- (9CI) (CA INDEX NAME)



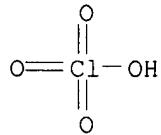
RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

RN 7447-41-8 HCAPLUS
 CN Lithium chloride (LiCl) (9CI) (CA INDEX NAME)

Cl-Li

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)

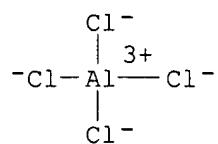


● Li

RN 10377-51-2 HCAPLUS
 CN Lithium iodide (LiI) (9CI) (CA INDEX NAME)

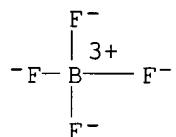
I-Li

RN 14024-11-4 HCAPLUS
 CN Aluminate(1-), tetrachloro-, lithium, (T-4)- (9CI) (CA INDEX NAME)



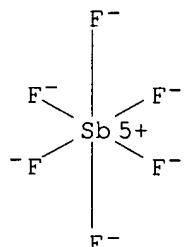
● Li^+

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



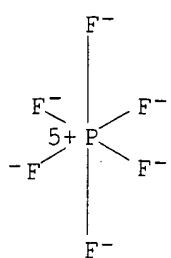
● Li^+

RN 18424-17-4 HCAPLUS
 CN Antimonate(1-), hexafluoro-, lithium, (OC-6-11)- (9CI) (CA INDEX NAME)



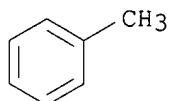
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



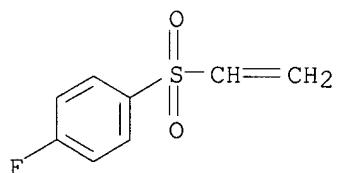
● Li⁺

RN 27359-10-0 HCAPLUS
 CN Benzene, methyl-, trifluoro deriv. (9CI) (CA INDEX NAME)



3 (D1-F)

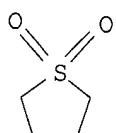
RN 28122-14-7 HCAPLUS
 CN Benzene, 1-(ethenylsulfonyl)-4-fluoro- (9CI) (CA INDEX NAME)



RN 28452-93-9 HCAPLUS
 CN Thiophene, dihydro-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

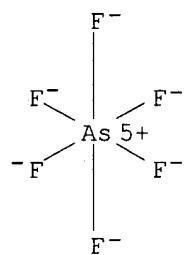
CM 1

CRN 126-33-0
 CMF C₄ H₈ O₂ S



RN 29935-35-1 HCAPLUS

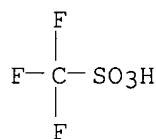
CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 33454-82-9 HCAPLUS

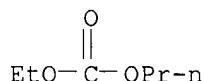
CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 35363-40-7 HCAPLUS

CN Carbonic acid, ethyl propyl ester (7CI, 9CI) (CA INDEX NAME)



RN 37220-89-6 HCAPLUS

CN Aluminum lithium oxide (9CI) (CA INDEX NAME)

Component	Ratio	Component	Registry Number
O	x		17778-80-2
Li	x		7439-93-2
Al	x		7429-90-5

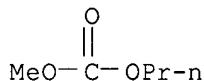
RN 39300-70-4 HCAPLUS

CN Lithium nickel oxide (9CI) (CA INDEX NAME)

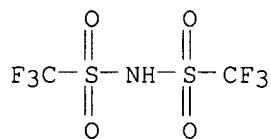
Component	Ratio	Component	Registry Number
O	x		17778-80-2

Ni		x		7440-02-0
Li		x		7439-93-2

RN 56525-42-9 HCAPLUS
 CN Carbonic acid, methyl propyl ester (7CI, 9CI) (CA INDEX NAME)



RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

RN 131651-65-5 HCAPLUS
 CN 1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, lithium salt (9CI) (CA INDEX NAME)



● Li

RN 162684-16-4 HCAPLUS
 CN Lithium manganese nickel oxide (9CI) (CA INDEX NAME)

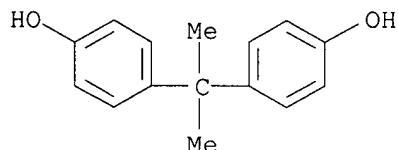
Component	Ratio	Component	
			Registry Number
O	x		17778-80-2
Ni	x		7440-02-0
Mn	x		7439-96-5
Li	x		7439-93-2

IT 80-05-7, Bisphenol A, uses 95-15-8, Thianaphthene 117-80-6, 2,3-Dichloro-1,4-naphthoquinone 271-89-6, 2,3-Benzofuran 524-42-5, 1,2-Naphthoquinone 625-86-5, 2,5-Dimethylfuran 693-98-1, 2-Methylimidazole 1192-62-7, 2-Acetyl furan 1193-79-9, 2-Acetyl-5-methylfuran 4265-27-4, 2-Butylbenzofuran 7474-83-1, 3-Bromo-1,2-naphthoquinone 13243-65-7, 2,3-Dibromo-1,4-naphthoquinone 16851-82-4, 1-(Phenylsulfonyl)pyrrole
 RL: MOA (Modifier or additive use); USES (Uses)

(nonaq. electrolyte for lithium secondary
battery)

RN 80-05-7 HCAPLUS

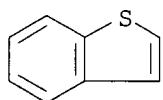
CN Phenol, 4,4'-(1-methylethyldene)bis- (9CI) (CA INDEX NAME)



(1)

RN 95-15-8 HCAPLUS

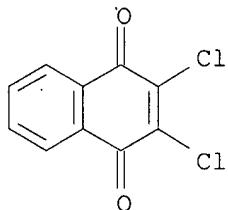
CN Benzo[b]thiophene (8CI, 9CI) (CA INDEX NAME)



(3)

RN 117-80-6 HCAPLUS

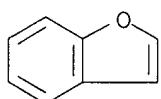
CN 1,4-Naphthalenedione, 2,3-dichloro- (9CI) (CA INDEX NAME)



(4)

RN 271-89-6 HCAPLUS

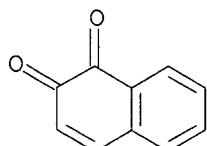
CN Benzofuran (6CI, 8CI, 9CI) (CA INDEX NAME)



(3)

RN 524-42-5 HCAPLUS

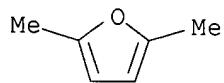
CN 1,2-Naphthalenedione (9CI) (CA INDEX NAME)



(5)

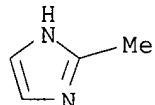
RN 625-86-5 HCAPLUS

CN Furan, 2,5-dimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



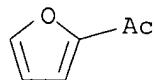
(2)

RN 693-98-1 HCAPLUS
 CN 1H-Imidazole, 2-methyl- (9CI) (CA INDEX NAME)



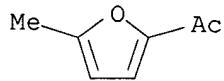
(2)

RN 1192-62-7 HCAPLUS
 CN Ethanone, 1-(2-furanyl)- (9CI) (CA INDEX NAME)



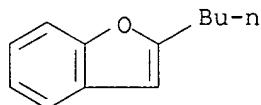
(2)

RN 1193-79-9 HCAPLUS
 CN Ethanone, 1-(5-methyl-2-furanyl)- (9CI) (CA INDEX NAME)



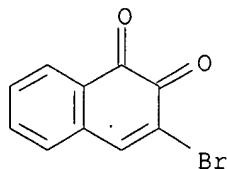
(2)

RN 4265-27-4 HCAPLUS
 CN Benzofuran, 2-butyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



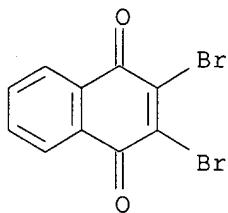
(3)

RN 7474-83-1 HCAPLUS
 CN 1,2-Naphthalenedione, 3-bromo- (9CI) (CA INDEX NAME)



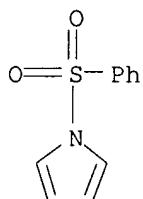
(3)

RN 13243-65-7 HCAPLUS
 CN 1,4-Naphthalenedione, 2,3-dibromo- (9CI) (CA INDEX NAME)



(4)

RN 16851-82-4 HCAPLUS
 CN 1H-Pyrrole, 1-(phenylsulfonyl)- (9CI) (CA INDEX NAME)



(2)

RETABLE

Referenced Author (RAU)	Year VOL PG	Referenced Work (RWK)	Referenced File
	(R PY) (R VL) (R PG)		
Anon	1993 43-44 1	J POWER SOURCES	
Arimura, T	1999 118 1	SOLID STATE IONICS	
Moli Energy 1990 Ltd	1997	EP 0759641 A	HCAPLUS
Moli Energy 1990 Ltd	1997	EP 0776058 A	HCAPLUS
Moller, K	2003 119-1 561	JOURNAL OF POWER SOU HCAPLUS	
Naess, R	2000	US 6074777 A	HCAPLUS
Ube Industries	2003	EP 1335445 A	HCAPLUS
Ube Industries	2003	EP 1361622 A	HCAPLUS
Wang, C	1998 74 142	JOURNAL OF POWER SOU HCAPLUS	
Yoshiharu, M	1989 26 579	JOURNAL OF POWER SOU	

L188 ANSWER 4 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:392771 HCAPLUS

DN 140:378118

TI Electrolyte composition for lithium secondary battery having high overcharge-safety

IN Roh, Kwonsun; Choi, Jonghyuk; Lee, Jaemyoung; Lee, Jonha

PA SKC Limited, S. Korea

SO PCT Int. Appl., 15 pp.

CQDEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004040687	A1	20040513	WO 2003-KR2274	20031027 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,			

TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD; RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 KR 2004037534 A 20040507 KR 2002-66067 20021029 <--
 AU 2003272137 A1 20040525 AU 2003-272137 20031027 <--

PRAI KR 2002-66067 A 20021029 <--

WO 2003-KR2274 W 20031027

AB An electrolyte composition comprising a nitrogen-containing compound, cyclohexyl

benzene, an organic solvent and a lithium salt is advantageously used for the preparation of a lithium secondary battery having high overcharge-safety, cycling life and high-temperature swelling properties at the same time.

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate

288-47-1, Thiazole 616-38-6, Dimethyl carbonate

7439-93-2D, Lithium, salt 7791-03-9,

Lithium perchlorate 12190-79-3, Cobalt lithium

oxide colio2 14283-07-9, Lithium tetrafluoroborate

18424-17-4, Lithium hexafluoroantimonate

21324-40-3, Lithium hexafluorophosphate

29935-35-1, Lithium hexafluoroarsenate

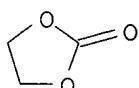
33454-82-9, Lithium triflate 90076-65-6

RL: DEV (Device component use); USES (Uses)

(electrolyte composition for lithium secondary battery having high overcharge-safety)

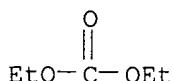
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 288-47-1 HCPLUS

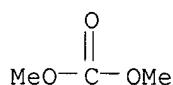
CN Thiazole (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 616-38-6 HCPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)

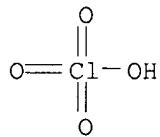
⑥



RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)

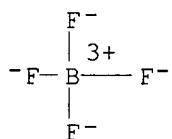


● Li

RN 12190-79-3 HCAPLUS
 CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

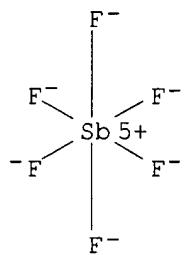
Component	Ratio	Component	
			Registry Number
O	2		17778-80-2
Co	1		7440-48-4
Li	1		7439-93-2

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



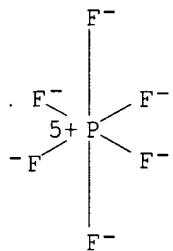
● Li⁺

RN 18424-17-4 HCAPLUS
 CN Antimonate(1-), hexafluoro-, lithium, (OC-6-11)- (9CI) (CA INDEX NAME)



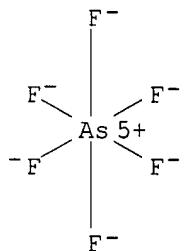
● Li⁺

RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



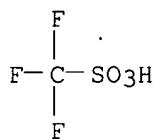
● Li⁺

RN 29935-35-1 HCPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



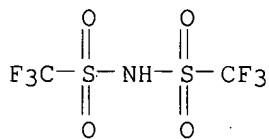
● Li⁺

RN 33454-82-9 HCPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

RETABLE

Referenced (RAU)	Author	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Gs-Melcotec Co Ltd		2002			JP 14-313415 A	
Hitachi Maxell Ltd		2002			JP 14-56892 A	
Matsushita Electric Ind		2002			JP 14-117895 A	
Matsushita Electric Ind		1975			US 3872358 A	HCAPLUS
Samsung Sdi Co Ltd		2002			US 6395429 A	HCAPLUS
Skc Co Ltd		2002			KR 0262152 A	
Ube Ind Ltd		2002			JP 14-203594 A	
Ube Ind Ltd		2002			JP 14-260725 A	

L188 ANSWER 5 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:201026 HCAPLUS

DN 140:220743

TI Nonaqueous electrolytes and nonaqueous electrolyte secondary batteries with prevented overcharging

IN Awano, Hiroki

PA Toyota Motor Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004079436	A	20040311	JP 2002-241047	20020821 <--

PRAI JP 2002-241047 20020821 <--

AB The title nonaq. electrolyte gels comprise a polymer containing dispersions of nonaq. solvent solution of monomers of conductive polymers, which polymerize above certain voltage. The monomers may be ≥1 compd(s). selected

from benzenes, biphenyls, pyrroles, furans, indoles, and thiophenes. Secondary **batteries** comprising Li-intercalating electrodes and the said electrolytes are also claimed. The monomers start to polymerize under application of certain voltage to the **battery**

IT 71-43-2D, Benzene, derivs. 110-00-9D, Furan, derivs.
 120-72-9D, Indole, derivs. 7439-93-2D, **Lithium**
 , poly(ethylene oxide) or poly(vinylidene fluoride) complexes,
 hexafluorophosphate-containing 21324-40-3D, **Lithium**
 hexafluorophosphate, poly(ethylene oxide) or poly(vinylidene fluoride)
 complexes
 RL: DEV (Device component use); USES (Uses)
 (addition of monomers polymerizable under certain voltage for safety in
 overcharging of secondary **lithium batteries**)
 RN 71-43-2 HCAPLUS
 CN Benzene (8CI, 9CI) (CA INDEX NAME)

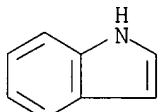


RN 110-00-9 HCAPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)



(2)

RN 120-72-9 HCAPLUS
 CN 1H-Indole (9CI) (CA INDEX NAME)

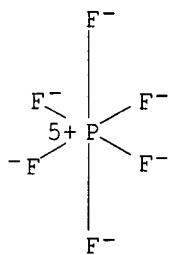


(3)

RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

L188 ANSWER 6 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2004:41827 HCAPLUS
 DN 140:79851
 TI Electrolyte composition for lithium secondary battery having high overcharge-safety
 IN Park, Chi-Kyun; Zhang, Zhiwei; Chai, Chul; Lee, Jonha; Roh, Kwonsun
 PA SKC Limited, S. Korea
 SO PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

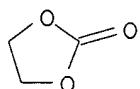
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004006378	A1	20040115	WO 2003-KR1332	20030707 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2004006057	A	20040124	KR 2002-39570	20020709 <--
AU 2003281410	A1	20040123	AU 2003-281410	20030707 <--
PRAI KR 2002-39570	A	20020709 <--		
WO 2003-KR1332	W	20030707		
AB An electrolyte composition comprising a nitrogen-containing compound, biphenyl, an organic solvent and a lithium salt is advantageously used for the preparation of a lithium secondary battery having high overcharge-safety, cycling life and capacity properties.				
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 288-47-1, Thiazole 616-38-6, Dimethyl carbonate 7439-93-2D, Lithium, salt 7791-03-9, Lithium perchlorate 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate				

33454-82-9, Lithium triflate 90076-65-6

RL: DEV (Device component use); USES (Uses)
 (electrolyte composition for lithium secondary battery having high
 overcharge-safety)

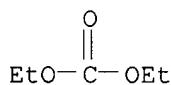
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 288-47-1 HCPLUS

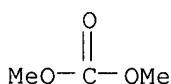
CN Thiazole (6CI, 8CI, 9CI) (CA INDEX NAME)



(6)

RN 616-38-6 HCPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



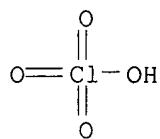
RN 7439-93-2 HCPLUS

CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

RN 7791-03-9 HCPLUS

CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)

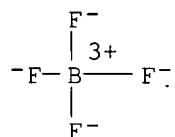


● Li

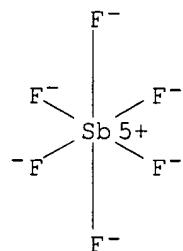
RN 12190-79-3 HCAPLUS
 CN Cobalt lithium oxide (CoLiO_2) (9CI) (CA INDEX NAME)

Component	Ratio	Component	
		Registry Number	
O	2	17778-80-2	
Co	1	7440-48-4	
Li	1	7439-93-2	

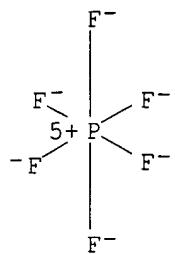
RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

● Li^+

RN 18424-17-4 HCAPLUS
 CN Antimonate(1-), hexafluoro-, lithium, (OC-6-11)- (9CI) (CA INDEX NAME)

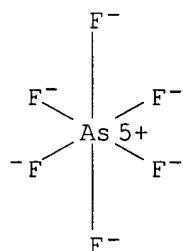
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



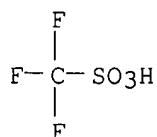
● Li⁺

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



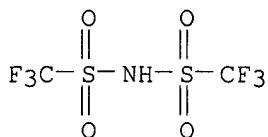
● Li⁺

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

RETABLE

Referenced (RAU)	Author	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
International Business		1991			US 5021129 A	HCAPLUS
International Business		1991			US 5045159 A	HCAPLUS
International Business		1992			US 5104944 A	HCAPLUS
International Business		1993			US 5203955 A	HCAPLUS
International Business		1993			US 5242713 A	HCAPLUS
International Business		1995			US 5443865 A	
Skc Co Ltd		2002			EP 1225649 A	HCAPLUS
Sumitomo Chemical Compa		1994			US 5281327 A	HCAPLUS

L188 ANSWER 7 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:633136 HCAPLUS

DN 139:152388

TI Nonaqueous **electrolyte** compositions for **lithium** secondary **batteries**

IN Song, Eui-hwan; Jung, Won-il; Hwang, Duck-chul

PA Samsung Sdi Co., Ltd., S. Korea

SO U.S. Pat. Appl. Publ., 5 pp., Cont.-in-part of U.S. Ser. No. 565,158, abandoned.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003152840	A1	20030814	US 2002-278354	20021022 <--
US 7150944	B2	20061219		

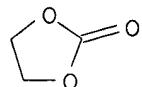
PRAI US 2000-565158 B2 20000503 <--

AB Disclosed are nonaq. **electrolyte** compns. of the present invention that comprise nonaq. **solvents** and monomers such as aniline, phenanthrene, ethylenedioxythiophene, benzothiophene or derivs. thereof. The monomers are contained in the **electrolytes** of the present invention in the amts. of less than about 5.0 weight% of the nonaq. **solvent**. In the present invention, cyclic carbonates, linear carbonates or mixts. thereof can be used as the nonaq. **solvents**. The **electrolyte** compns. of the present invention improve the safety characteristics of the cell by preventing the flow of large currents resulting from overcharge or feed-through, and also improve cell life characteristic by helping the reversible transfer of **lithium** ions.

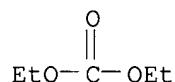
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Ethyl methyl carbonate 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium

hexafluoroarsenate 33454-82-9, Lithium triflate
 210353-06-3, Cobalt lithium nickel strontium oxide
 RL: DEV (Device component use); USES (Uses)
 (nonaq. electrolyte compns. for lithium secondary
 batteries)

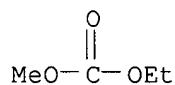
RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



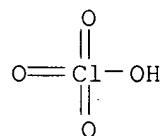
RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 623-53-0 HCAPLUS
 CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)

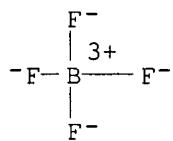


RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



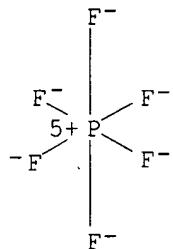
● Li

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



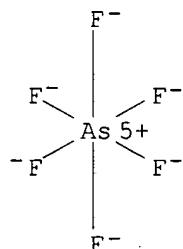
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



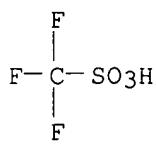
● Li^+

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



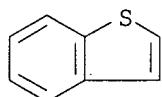
● Li

RN 210353-06-3 HCAPLUS
 CN Cobalt lithium nickel strontium oxide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Sr	x	7440-24-6
Ni	x	7440-02-0
Li	x	7439-93-2

IT 95-15-8, Benzothiophene
 RL: MOA (Modifier or additive use); USES (Uses)
 (nonaq. **electrolyte** compns. for **lithium** secondary
batteries)

RN 95-15-8 HCAPLUS
 CN Benzo[b]thiophene (8CI, 9CI) (CA INDEX NAME)



(3)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
Anon	1986			JP 61161673	H CAPLUS
Anon	1995			JP 07220757	H CAPLUS
Anon	1995			JP 07320778	H CAPLUS
Anon	1996			EP 759641	H CAPLUS
Anon	1997			EP 776058	H CAPLUS
Anon	1998			JP 10189008	H CAPLUS
Anon	1998			EP 878861	H CAPLUS
Anon	2000			JP 2000090970	H CAPLUS
Hwang	2003			US 6521375 B1	H CAPLUS
Hwang	2003			US 6613480 B1	H CAPLUS
Jung	2003			US 6511769 B1	H CAPLUS
Lee	1996			US 5538812 A	H CAPLUS
Linden, D	1995	2	36.1	Handbook of Batteries	
Mao	2000			US 6074776 A	H CAPLUS
Matsufuji	1998			US 5759714 A	H CAPLUS
Song	2003			US 20030152840 A1	H CAPLUS
Song	2003			US 6503663 B1	H CAPLUS
Takei	2002			US 6337155 B1	H CAPLUS

Tsutsumi

|1998 | | US 5731106 A

|HCAPLUS

L188 ANSWER 8 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:886243 HCAPLUS

DN 137:387083

TI Nonaqueous gel composition containing crosslinked polymer having alkylammonium or piperazinium structure and electrochemical cell

IN Aizawa, Wakana; Ikegami, Koshiro; Takada, Masakazu; Takaoka, Kazuchiyo

PA Mitsubishi Paper Mills, Ltd., Japan; Nippon Unicar Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

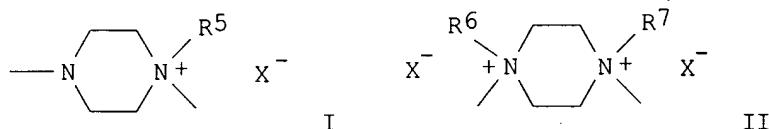
DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002332417	A	20021122	JP 2001-138273	20010509 <--
PRAI JP 2001-138273		20010509 <--		

GI



AB The title gel composition comprises a polymer having a crosslinked structure R₁NX, R₂YNX₂, R₄YNX, I, or II [R₁-R₇ = (substituted) C₁-9 alkyl; X = monovalent inorg. or organic acid or its equivalent; Y = C₁-8 alkylene, alkylene

oxide, or xylylene]. The composition, especially suitable for secondary Li batteries and capacitors, has high resistance to free acids generated in an electrolyte solution

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate

108-32-7, Propylene carbonate 21324-40-3,

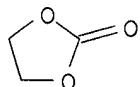
Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)
(composition containing; nonaq. gel electrolyte composition containing crosslinked

polymer having alkylammonium or piperazinium structure for battery and capacitor)

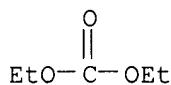
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)

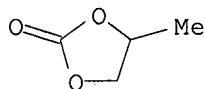


RN 105-58-8 HCAPLUS

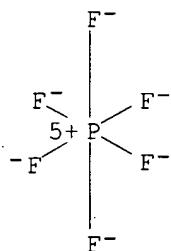
CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 108-32-7 HCAPLUS
CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)

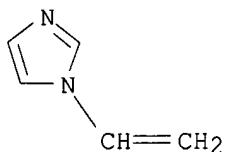


RN 21324-40-3 HCPLUS
CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

IT 1072-63-5DP, N-Vinylimidazole, polymers with alkylammonium compound
and piperazinium compound
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
(Preparation); USES (Uses)
(nonaq. gel electrolyte composition containing crosslinked polymer having
alkylammonium or piperazinium structure for battery and capacitor)
RN 1072-63-5 HCPLUS
CN 1H-Imidazole, 1-ethenyl- (9CI) (CA INDEX NAME)



6

L188 ANSWER 9 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:736752 HCAPLUS
DN 137:265678 .
TI High ionic conductivity gel polymer electrolyte for rechargeable polymer batteries
IN Park, Chi-Kyun; Zhang, Zhiwei; Sun, Lu Ying; Chai, Chul

PA SKC Co., Ltd., USA
 SO U.S. Pat. Appl. Publ., 9 pp., Cont.-in-part of U.S. Ser. No. 760,720.
 CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002136959	A1	20020926	US 2001-986459	20011108 <--
US 6841303	B2	20050111		
US 2002136958	A1	20020926	US 2001-760720	20010117 <--
EP 1225649	A2	20020724	EP 2001-310592	20011219 <--
EP 1225649	A3	20020807		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
KR 2002062152	A	20020725	KR 2002-421	20020104 <--
CN 1367201	A	20020904	CN 2002-101700	20020117 <--

PRAI US 2001-760720 A2 20010117 <--
 US 2001-986459 A 20011108 <--

AB Ionic gel polymer electrolytes for rechargeable polymer batteries are disclosed. In preferred forms, a gel polymer precursor electrolyte is formed by dissolving a gelling agent into organic liquid electrolytes, and then gelling the precursor in situ at elevated temperature after pouring it into a battery case that contains a cathode, an anode and a separator. The gel polymer electrolytes exhibit excellent ionic conductivity of up to about 10-2 S/cm and voltage stability for lithium rechargeable batteries.

Most preferably, the gel polymer electrolyte is the reaction product of (A) nitrogen-group containing polymers, copolymers, oligomers or monomers that are capable of reacting with halogen compds. or epoxy compds., such as, polymers, copolymers, oligomers or monomers containing primary, secondary or tertiary amines, and (B) halide or epoxy-group containing polymers, copolymers, oligomers or monomers that are capable of reacting with nitrogen-containing compds., such as polymers, copolymers, oligomers or monomers containing alkylene halides or halomethyl group substituted aromatic units or at least one epoxy unit. Especially preferred (A) materials include pyridine compds., and most preferably vinylpyridines, such as poly(2-vinylpyridine) and copolymers thereof. Especially preferred compds. useable as material (B) include bis(bromomethyl)benzene, α,α' -dibromoethylene, diiodoalkanes, 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate, butadiene diepoxide, and butanediol diglycidyl ether.

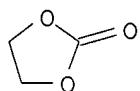
IT 71-43-2D, Benzene, halomethyl derivs., polymers 96-49-1,
 Ethylene carbonate 105-58-8, Diethyl carbonate 288-47-1
 , Thiazole 616-38-6, Dimethyl carbonate 7791-03-9,
 Lithium perchlorate 14283-07-9, Lithium
 tetrafluoroborate 21324-40-3, Lithium
 hexafluorophosphate 29935-35-1, Lithium
 hexafluoroarsenate 33454-82-9, Lithium triflate
 90076-65-6

RL: DEV (Device component use); USES (Uses)
 (high ionic conductivity gel polymer electrolyte for rechargeable polymer batteries)

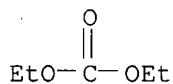
RN 71-43-2 HCPLUS
 CN Benzene (8CI, 9CI) (CA INDEX NAME)



RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)

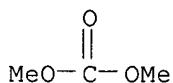


RN 288-47-1 HCAPLUS
 CN Thiazole (6CI, 8CI, 9CI) (CA INDEX NAME)

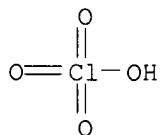


(6)

RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME).

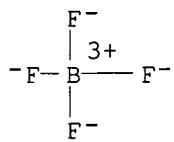


RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



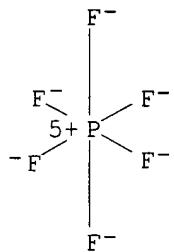
● Li

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



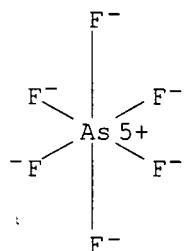
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



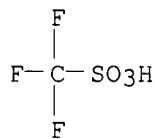
● Li^+

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



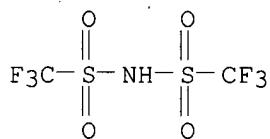
● Li^+

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

RETABLE

Referenced (RAU)	Author	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Abrahamand		1990	137	1657	J. Electrochem. Soc	
Andrieu		1993			US 5202009 A	HCPLUS
Andrieu		1995	40	2295	Electrochimica Acta	HCPLUS
Anon		1999			WO 9965101	HCPLUS
Arbizzani		1994	72	115	Solid State Ionics	HCPLUS
Armand		2000			US 6120696 A	HCPLUS
Gozdz		1994			US 5296318 A	HCPLUS
Hamrock		2000			US 6063522 A	HCPLUS
Kluger		1983			US 4383103 A	HCPLUS
Maruyama		2002			US 6420072 B1	HCPLUS
Passerini		1944	141	L80	J. Electrochem. Soc.	
Tobishima		1993			US 5270134 A	HCPLUS

L188 ANSWER 10 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN

AN 2002:714433 HCPLUS

DN 137:250260

TI Secondary nonaqueous electrolyte **battery**

IN Kuranaka, Satoshi; Bito, Yasuhiko; Kouduki, Kiyomi; Takahashi, Shozo; Eda, Nobuo

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002270223	A	20020920	JP 2001-63065	20010307 <--

PRAI JP 2001-63065

20010307 <--

AB The **battery** has a nonaq. electrolyte solution containing an aromatic additive selected from biphenyl, furan, thiophene, and their derivs.; and a porous polyolefin separator, which has a gas permeability 250-800 s/100 mL (JIS P8117-1998), after holding in a 110° atmospheric for 15 min while stretched at 25 kg/cm² in its length direction, or after holding in a 130° atmospheric for 15 min while stretched at 25 kg/cm² in its width direction.

IT 96-49-1, Ethylene carbonate 110-00-9, Furan

120-72-9, Indole, uses 623-53-0, Ethyl methyl carbonate

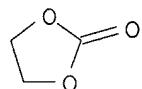
21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)

(electrolyte solns. containing aromatic additives for secondary lithium batteries)

RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 110-00-9 HCAPLUS

CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

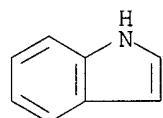
(2)



RN 120-72-9 HCAPLUS

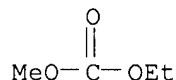
CN 1H-Indole (9CI) (CA INDEX NAME)

(3)



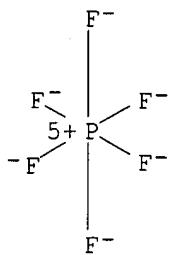
RN 623-53-0 HCAPLUS

CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 21324-40-3 HCAPLUS

CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

L188 ANSWER 11 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:505274 HCAPLUS
 DN 137:81358
 TI Ethylene carbonate- γ -butyrolactone-based nonaqueous electrolytes for secondary batteries
 IN Sekino, Masahiro; Satoh, Asako; Fujiwara, Masashi; Hasebe, Hiroyuki
 PA Kabushiki Kaisha Toshiba, Japan
 SO U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U. S. Ser. No.961,138.
 CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

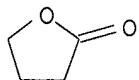
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002086216	A1	20020704	US 2001-26816	20011227 <--
US 6861175	B2	20050301		
US 2002064712	A1	20020530	US 2001-961138	20010924 <--
<u>US 6787269</u>	B2	20040907		
JP 2002184462	A	20020628	JP 2001-338586	20010928 <--
PRAI JP 2000-296074	A	20000928	<--	
US 2001-961138	A2	20010924	<--	
JP 2001-338586	A	20010928	<--	

AB A nonaq. electrolyte, preferably in the form of a gel or liquid, for a secondary battery consists of 20-50 volume% ethylene carbonate and 40-80 volume% γ -butyrolactone, and includes a third solvent selected from ethylene sulfite, phenylethylene carbonate, 2-methylfuran, furan, thiophene, catechol carbonate, and vinylethylene carbonate. Optionally, the battery electrolyte can also contain a lithium salt as a solute, selected from LiClO₄, LiPF₆, LiBF₄, LiAsF₆, LiCF₃SO₃, LiN(CF₃SO₂)₂, and LiN(C₂F₅SO₂)₂. Under charge-discharge cycle tests at 45°, the capacity retention rate at the 100th charge-discharge cycle is \geq 85% of the discharge capacity in the first charge-discharge cycle.

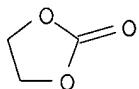
IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate 110-00-9, Furan 534-22-5, 2-Methylfuran
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrolytes containing; ethylene carbonate- γ -butyrolactone-based nonaq. electrolytes for secondary batteries)

RN 96-48-0 HCAPLUS

CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)

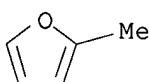


RN 110-00-9 HCAPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)



(2)

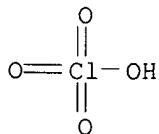
RN 534-22-5 HCAPLUS
 CN Furan, 2-methyl- (8CI, 9CI) (CA INDEX NAME)



(2)

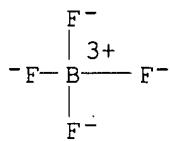
IT 7791-03-9, Lithium perchlorate 14283-07-9,
 Lithium tetrafluoroborate 21324-40-3, Lithium
 hexafluorophosphate 29935-35-1, Lithium
 hexafluoroarsenate 33454-82-9, Lithium
 trifluoromethanesulfonate 90076-65-6, Methanesulfonamide,
 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solute, nonaq. electrolyte containing; ethylene carbonate- γ -
 butyrolactone-based nonaq. electrolytes for secondary batteries
)

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



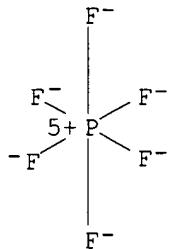
● Li

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



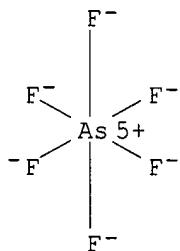
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



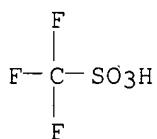
● Li^+

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



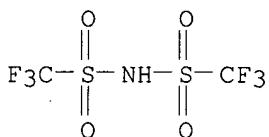
● Li^+

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

RETABLE

Referenced (RAU)	Author	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Anon		1990			EP 0398689	H CAPLUS
Anon		1992			EP 0478379	H CAPLUS
Anon		1992			JP 414769	
Anon		1999			JP 1197062	
Anon		2000			WO 0079632	H CAPLUS
Anon		2000			EP 0997960	H CAPLUS
Anon		2000			EP 1030399	H CAPLUS
Anon		2000			JP 2000235868	H CAPLUS
Anon		2001			EP 1096592	H CAPLUS
Anon		2001			JP 2001126761 A	H CAPLUS
Anon		2002			EP 1187245	H CAPLUS
Hatazaki		2001			US 20010038949 A1	
Iwamoto		2002			US 20020039677 A1	
Mita		2001			US 6315918 B1	H CAPLUS
Nakagawa, H		2000		1	The Electrochemical	MEDLINE
Smart, M		1999		55	Battery Conference o	H CAPLUS
Sonozaki		2000			US 6048639 A	H CAPLUS

L188 ANSWER 12 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:253130 HCAPLUS

DN 136:281940

TI Nonaqueous electrolyte secondary **battery**

IN Sekino, Masahiro; Satoh, Asako; Fujiwara, Masashi; Hasebe, Hiroyuki

PA Kabushiki Kaisha Toshiba, Japan

SO Eur. Pat. Appl., 33 pp.

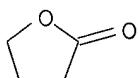
CODEN: EPXXDW

DT Patent

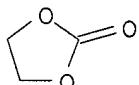
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1193788 EP 1193788	A2 A3	20020403 20040107	EP 2001-308138	20010925 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1347166	A	20020501	CN 2001-132663	20010907 <--
PRAI	JP 2000-296074	A	20000928 <--		
AB	Disclosed is a nonaq. electrolyte secondary battery , characterized by comprising a nonaq. electrolyte containing ethylene carbonate and γ -butyrolactone, wherein, when a charge-discharge cycle test satisfying conditions (A) to (D) given below is performed under an environment of 45°, the capacity retention rate at 100-th charge-discharge cycle is at least 85% based on the discharge capacity in the first charge-discharge cycle, (A) for the charging, the constant current-constant voltage charging to 4.2 V is performed for 3 h under a current of 1 C, (B) the discharging is performed to 3 V under a current of 1 C, (C) after the charging, the secondary battery is left to stand for 10 min, followed by performing the discharging, and (D) after the discharging, the secondary battery is left to stand for 10 min, followed by performing the charging.				
IT	96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate 110-00-9, Furan 534-22-5, 2-Methylfuran 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6				
	RL: DEV (Device component use); USES (Uses) (nonaq. electrolyte secondary battery)				
RN	96-48-0 HCAPLUS				
CN	2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)				



RN 96-49-1 HCAPLUS
CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)

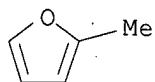


RN 110-00-9 HCAPLUS
CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)



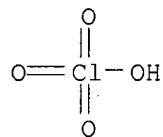
RN 534-22-5 HCAPLUS
CN Furan, 2-methyl- (8CI, 9CI) (CA INDEX NAME)

(2)



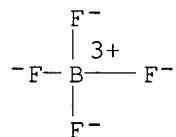
(2)

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



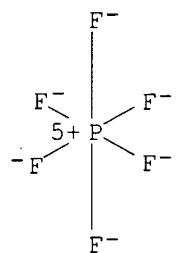
● Li

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



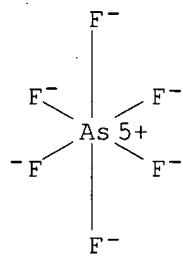
● Li⁺

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



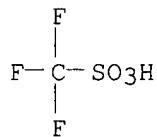
● Li⁺

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



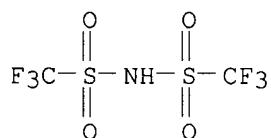
● Li⁺

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

L188 ANSWER 13 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:193254 HCAPLUS
 DN 136:234657
 TI Manufacture of electrode by heat treatment for secondary polymer battery
 IN Harada, Manabu; Nishiyama, Toshihiko; Kamito, Hiroyuki; Kurosaki, Masato;
 Nakagawa, Yuji; Mitani, Katsuya; Yoshida, Shinya; Shinoda, Tomoki
 PA NEC Corp., Japan; NEC Tokin Corp.
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002075333 JP 3581304	A B2	20020315 20041027	JP 2000-267388	20000904 <--
PRAI	JP 2000-267388			20000904 <--	

AB The electrode is manufactured by forming a film containing a conductive aid and polymer active mass and then heating at temperature lower than carbonization temperature of the polymer. The electrode may be free from a binder. Claimed battery is equipped with the above electrode through a separator impregnated with an electrolyte solution or an electrolyte. The battery has high capacity, long cycle life, and low impedance.

IT 82451-55-6, Polyindole

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(cathode; polymer-containing electrode manufactured by heat treatment for secondary polymer battery)

RN 82451-55-6 HCPLUS

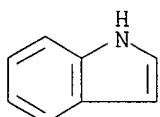
CN 1H-Indole, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 120-72-9

CMF C8 H7 N

(3)

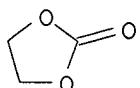


IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate

RL: DEV (Device component use); USES (Uses)
(electrolyte solvent; polymer-containing electrode manufactured by heat treatment for secondary polymer battery)

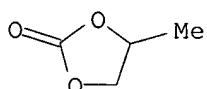
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 108-32-7 HCPLUS

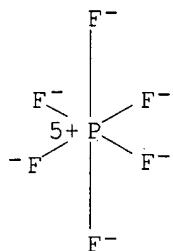
CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



IT 21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)
(electrolyte; polymer-containing electrode manufactured by heat treatment for

secondary polymer battery)
RN 21324-40-3 HCAPLUS
CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

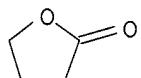
L188 ANSWER 14 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:163800 HCAPLUS
DN 136:219519
TI Phenyl boron-based compounds as anion receptors for nonaqueous
battery electrolytes
IN Lee, Hung Sui; Yang, Xiao-qing; McBreen, James; Sun, Xuehui
PA Brookhaven Science Associates, Llc, USA
SO U.S., 15 pp., Cont.-in-part of U. S. 6,022,643.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6352798	B1	20020305	US 2000-492569	20000127 <--
US 6022643	A	20000208	US 1997-986846	19971208 <--
PRAI US 1997-986846	A2	19971208 <--		

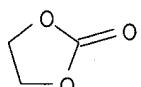
OS MARPAT 136:219519
AB Novel fluorinated boronate-based compds. which act as anion receptors in
nonaq. **battery** electrolytes are provided. When added to nonaq.
battery electrolytes, the fluorinated boronate-based compds. of
the invention enhance ionic conductivity and cation transference number of
nonaq.
electrolytes. The fluorinated boronate-based anion receptors include
different fluorinated alkyl and aryl groups.
IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene
carbonate 108-32-7, Propylene carbonate 109-99-9, Thf,
uses 534-22-5, 2-Methylfuran 616-38-6, Dimethyl
carbonate 7439-93-2, Lithium, uses 7447-41-8
, Lithium chloride, uses 7550-35-8, Lithium
bromide 7791-03-9, Lithium perchlorate
10377-51-2, Lithium iodide 12057-17-9,
Lithium manganese oxide limn2o4 12190-79-3, Cobalt
lithium oxide colio2 14283-07-9, Lithium
tetrafluoroborate 18424-17-4, Lithium
hexafluoroantimonate 21324-40-3, Lithium
hexafluorophosphate 29935-35-1, Lithium
hexafluoroarsenate

RL: DEV (Device component use); USES (Uses)
 (Ph boron-based compds. as anion receptors for nonaq. **battery**
 electrolytes)

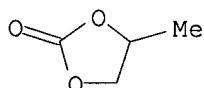
RN 96-48-0 HCAPLUS
 CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



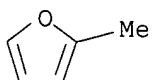
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



RN 109-99-9 HCAPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)

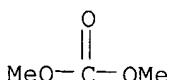


RN 534-22-5 HCAPLUS
 CN Furan, 2-methyl- (8CI, 9CI) (CA INDEX NAME)



(2)

RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

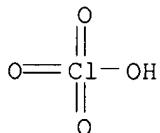
RN 7447-41-8 HCAPLUS
 CN Lithium chloride (LiCl) (9CI) (CA INDEX NAME)

Cl-Li

RN 7550-35-8 HCAPLUS
 CN Lithium bromide (LiBr) (9CI) (CA INDEX NAME)

Br-Li

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 10377-51-2 HCAPLUS
 CN Lithium iodide (LiI) (9CI) (CA INDEX NAME)

I-Li

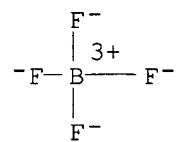
RN 12057-17-9 HCAPLUS
 CN Lithium manganese oxide (LiMn₂O₄) (6CI, 7CI, 9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	4	17778-80-2
Mn	2	7439-96-5
Li	1	7439-93-2

RN 12190-79-3 HCAPLUS
 CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

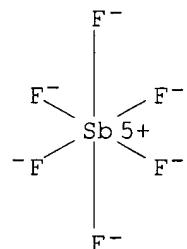
Component	Ratio	Component
		Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



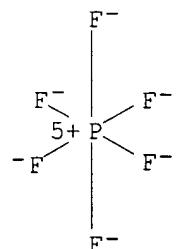
● Li^+

RN 18424-17-4 HCAPLUS
 CN Antimonate(1-), hexafluoro-, lithium, (OC-6-11)- (9CI) (CA INDEX NAME)



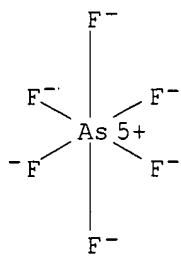
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RETABLE

Referenced (RAU)	Author	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
Anon		1991			DE 4014488 A	HCAPLUS
Anon		1993			JP 05148259 A	HCAPLUS
Conroy		1970	9	2739	"A Series of 1,3-Dio	

L188 ANSWER 15 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:103441 HCAPLUS

DN 136:153869

TI **Lithium-sulfur batteries** with high capacity and good rate capability

IN Jung, Yongju; Kim, Seok; Choi, Yunsuk; Choi, Soo Seok; Lee, Jeawoan; Hwang, Duck Chul; Kim, Joo Soak

PA Samsung SDI Co., Ltd., S. Korea

SO Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1178555	A2	20020206	EP 2001-117788	20010802 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	KR 2002011562	A	20020209	KR 2000-44900	20000802 <--
	KR 2002011563	A	20020209	KR 2000-44901	20000802 <--
	JP 2002075446	A	20020315	JP 2001-213286	20010713 <--
	US 2002045102	A1	20020418	US 2001-918463	20010801 <--
	CN 1336696	A	20020220	CN 2001-132527	20010802 <--

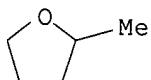
PRAI KR 2000-44900

KR 2000-44901

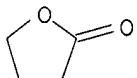
AB A **lithium-sulfur battery** includes a neg. electrode, a pos. electrode, and an **electrolyte**. The neg. electrode includes a neg. active material selected from materials in which lithium intercalation reversibly occur, lithium alloy or lithium metal. The pos. electrode includes at least one of elemental sulfur and organosulfur compds. for a pos. active material, and an elec. conductive material. The **electrolyte** includes at least two groups selected from a weak polar **solvent** group, a strong polar **solvent** group and a **lithium protection solvent** group, where the **electrolyte** includes at least one or more **solvents** selected from the same group. The **electrolyte** may optionally

IT include one or more **electrolyte** salts.
 96-47-9, 2-Methyltetrahydrofuran 96-48-0,
 γ -Butyrolactone 105-58-8, Diethyl carbonate
 108-88-3, Toluene, uses 109-99-9, Thf, uses
 110-00-9, Furan 126-33-0, Sulfolane 534-22-5,
 2-Methylfuran 616-38-6, Dimethyl carbonate 625-86-5,
 2,5-Dimethylfuran 1330-20-7, Xylene, uses 7439-93-2,
 Lithium, uses 7791-03-9, Lithium perchlorate
 14283-07-9, Lithium tetrafluoroborate 21324-40-3
 , Lithium hexafluorophosphate 33454-82-9,
 Lithium triflate 90076-65-6
 RL: ~DEV (Device component use); USES (Uses)
 (lithium-sulfur batteries with high capacity and
 good rate capability)

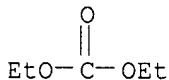
RN 96-47-9 HCAPLUS
 CN Furan, tetrahydro-2-methyl- (8CI, 9CI) (CA INDEX NAME)



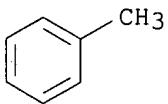
RN 96-48-0 HCAPLUS
 CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI), (CA INDEX NAME)



RN 108-88-3 HCAPLUS
 CN Benzene, methyl- (9CI) (CA INDEX NAME)



RN 109-99-9 HCAPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)

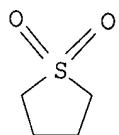


RN 110-00-9 HCAPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

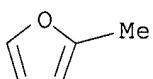


(2)

RN 126-33-0 HCAPLUS
 CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)

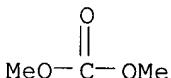


RN 534-22-5 HCAPLUS
 CN Furan, 2-methyl- (8CI, 9CI) (CA INDEX NAME)

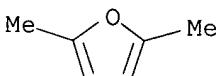


(2)

RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 625-86-5 HCAPLUS
 CN Furan, 2,5-dimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



(2)

RN 1330-20-7 HCAPLUS
 CN Benzene, dimethyl- (9CI) (CA INDEX NAME)

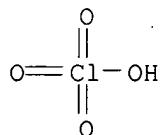


2 (D1-Me)

RN 7439-93-2 HCPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

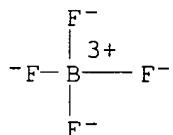
Li

RN 7791-03-9 HCPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



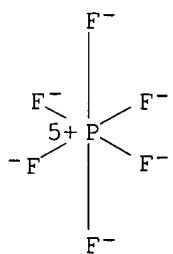
● Li

RN 14283-07-9 HCPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

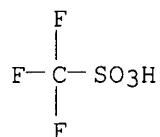
RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 33454-82-9 HCPLUS

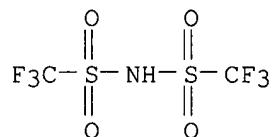
CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCPLUS

CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

IT 74432-42-1, Lithium polysulfide

RL: TEM (Technical or engineered material use); USES (Uses)
(lithium-sulfur batteries with high capacity and
good rate capability)

RN 74432-42-1 HCPLUS

CN Lithium sulfide (Li₂(Sx)) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L188 ANSWER 16 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN

AN 2001:850854 HCPLUS

DN 135:374181

TI Method of manufacturing a polymer gel electrolyte battery or capacitor

IN Sato, Takaya; Shimizu, Tatsuo

PA Nisshinbo Industries, Inc., Japan; Itochu Corporation

SO Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1156547	A1	20011121	EP 2001-111816	20010515 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001325991	A	20011122	JP 2000-141687	20000515 <--
	CA 2347408	A1	20011115	CA 2001-2347408	20010511 <--
	US 2002042986	A1	20020418	US 2001-853050	20010511 <--
	US 6793692	B2	20040921		
	SG 100695	A1	20031226	SG 2001-2795	20010511 <--

CN 1324117 A 20011128 CN 2001-116134 20010515 <--
 TW 512556 B 20021201 TW 2001-90111551 20010515 <--
 EP 1300904 A1 20030409 EP 2003-421 20010515 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, LT, LV, FI, RO, MK, CY, AL, TR

PRAI US 2004001302 A1 20040101 US 2003-607956 20030627 <--

JP 2000-141687 A 20000515 <--

US 2001-853050 A3 20010511 <--

EP 2001-111816 A3 20010515 <--

AB The invention discloses a method for manufacturing an elec. component, in which ions migrate between electrodes and which provides high efficiency. In the method for manufacturing an elec. component, in which ions migrate between electrodes, an ion conductive polymer layer dissolving ions is formed on an electrode material layer of at least one of a pair of electrode structures which comprise an electrode material layer formed on a current collector. The pair of electrode structures are arranged at opposed positions with the current collector facing outward, and this arrangement is accommodated in an accommodation unit, and liquid electrolyte is injected into the accommodation unit.

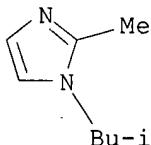
IT 116680-33-2, NC-IM

RL: CAT (Catalyst use); USES (Uses)

(method of manufacturing polymer gel electrolyte battery or capacitor)

RN 116680-33-2 HCAPLUS

CN 1H-Imidazole, 2-methyl-1-(2-methylpropyl)- (9CI) (CA INDEX NAME)



(6)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
 7791-03-9, Lithium perchlorate 12190-79-3,

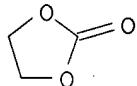
Cobalt lithium oxide colio2

RL: DEV (Device component use); USES (Uses)

(method of manufacturing polymer gel electrolyte battery or capacitor)

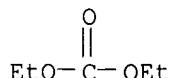
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



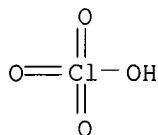
RN 105-58-8 HCAPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 7791-03-9 HCAPLUS

CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 12190-79-3 HCAPLUS
 CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

Component	Ratio	Component	
		Registry Number	
O	2	17778-80-2	
Co	1	7440-48-4	
Li	1	7439-93-2	

IT 109-99-9, Thf, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (method of manufacturing polymer gel electrolyte battery or capacitor)
 RN 109-99-9 HCAPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Anon	1997	1997	1	PATENT ABSTRACTS OF	
Basf Ag	2000			DE 19830993 A	H CAPLUS
Clericuzio, M	1995	82	179	SOLID STATE IONICS	
Koninkl Philips Electro	1999			WO 9949531 A	H CAPLUS
Nisshinbo Ind Inc	1996			JP 08225626 A	H CAPLUS
Osaka, T	1998	74	122	JOURNAL OF POWER SOU	H CAPLUS
Sony Corp	2000			EP 1041658 A	H CAPLUS
Sony Corporation	2000			WO 0013252 A	H CAPLUS

L188 ANSWER 17 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:847742 HCAPLUS

DN 136:9010

TI Solid polymer electrolyte

IN Ogawa, Noriyoshi; Kanekawa, Tatsuya

PA Mitsubishi Gas Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
PI JP 2001325990	A	20011122	JP 2000-141683	20000515 <--

PRAI JP 2000-141683
GI

20000515 <--

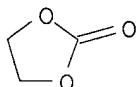
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The electrolyte contains an ionizable Group I or Group II metal salt and a copolymer, having limiting viscosity 0.2-2.0 dL/g, and containing repeating units I ($R_{1-4} = H$, C1-10 alkyl, C6-12 aryl, C2-5 alkenyl, C1-5 alkoxy, or C7-17 aralkyl groups and may have C1-5 alkyl, C2-5 alkenyl, or C1-5 alkoxy substituents; $X = -(CR_5R_6)_n-$, $-S-$, $-SO_2-$, $-O-$, $-CO-$, $-SO-$, II, or III; $R_{5-6} = H$, C1-10 alkyl, C6-12 aryl, C2-5 alkenyl, or C1-5 alkoxy groups that may contain C1-5 alkyl, C2-5 alkenyl or C1-5 alkoxy substituents, or R5 and R6 joined to form a (heterocyclic) ring; $R_{7-8} = H$, C1-10 alkyl, C2-10 alkenyl, C1-10 alkoxy, or C6-12 aryl group; $a = 0-20$ integer) and 20-70 mol% IV ($R_{9-10} = H$, C1-5 alkyl, C6-12 aryl, C2-5 alkenyl, C1-5 alkoxy, C7-17 aralkyl groups and may have C1-5 alkyl, C2-5 alkenyl, or C1-5 alkoxy substituents; $R_{11-14} = H$, C1-5 alkyl, C6-12 aryl, C2-5 alkenyl, C1-5 alkoxy, C7-17 aralkyl groups and may have C1-5 alkyl, C2-5 alkenyl, or C1-5 alkoxy substituents; $R_{15} = C1-6$ alkylene group, alkylidene group, or single bond; Y = polymer or random copolymer of $-SiR_{16}R_{17}O-$ and/or $-SiR_{18}R_{19}O-$ having d.p. 0-200, $R_{16-19} = H$, C1-5 alkyl, C6-12 aryl, C2-5 alkenyl, C1-5 alkoxy, C7-17 aralkyl groups and may have C1-5 alkyl, C2-5 alkenyl, or C1-5 alkoxy substituents). The electrolyte is useful for batteries.

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 7791-03-9, Lithium perchlorate
RL: DEV (Device component use); USES (Uses)
(compns. of solid polymer electrolyte containing carbonate ester-siloxane copolymer for secondary lithium batteries)

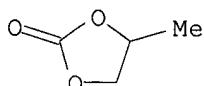
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



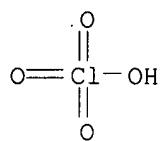
RN 108-32-7 HCPLUS

CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



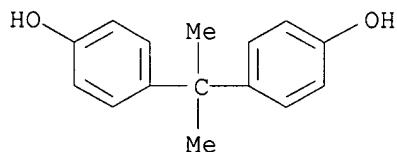
RN 7791-03-9 HCPLUS

CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



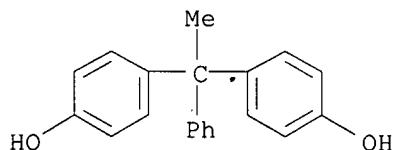
● Li

IT 80-05-7, 2,2-Bis(4-hydroxyphenyl)propane, processes
 1571-75-1, 1,1-Bis(4-hydroxyphenyl)-1-phenyl ethane
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (in manufacture of solid polymer electrolyte containing carbonate
 ester-siloxane
 copolymer for secondary **lithium** batteries)
 RN 80-05-7 HCPLUS
 CN Phenol, 4,4'-(1-methylethyldene)bis- (9CI) (CA INDEX NAME)



(1)

RN 1571-75-1 HCPLUS
 CN Phenol, 4,4'-(1-phenylethyldene)bis- (9CI) (CA INDEX NAME)



(1)

L188 ANSWER 18 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 2001:780530 HCPLUS

DN 135:320525

TI Nonaqueous electrolyte secondary battery

IN Nirasawa, Takao; Ito, Hidetoshi; Omura, Atsuo

PA Sony Corp., Japan

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

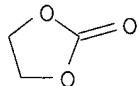
DT Patent

LA English

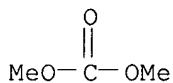
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1148570	A2	20011024	EP 2001-109161	20010412 <--
	EP 1148570	A3	20040908		
	EP 1148570	B1	20060607		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002008720	A	20020111	JP 2000-333571	20001031 <--

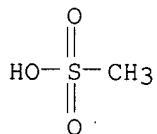
TW 490876	B	20020611	TW 2001-90108532	20010410 <--
CN 1322028	A	20011114	CN 2001-121439	20010418 <--
US 2002018940	A1	20020214	US 2001-837847	20010418 <--
US 6913856	B2	20050705		
US 2005208385	A1	20050922	US 2005-111401	20050421 <--
PRAI JP 2000-122417	A	20000418	<--	
JP 2000-333571	A	20001031	<--	
US 2001-837847	A1	20010418	<--	
AB A nonaq. electrolyte secondary battery includes a pos. electrode having a pos. electrode active material, a neg. electrode containing a neg. electrode active material capable of being doped/undoped with lithium, and a nonaq. electrolyte. The nonaq. electrolyte contains at least one of thiols, thiophenes, thioanisoles, thiazoles, thioacetates, aromatic sulfones, and the derivs. thereof. The capacity of the battery is not significantly degraded after cycling and its cycle life is significantly long.				
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 2550-62-1, Methanesulfonic acid, lithium salt 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7791-03-9, Lithium perchlorate 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 14485-20-2 , Lithium tetraphenylborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate RL: DEV (Device component use); USES (Uses) (nonaq. electrolyte secondary battery)				
RN 96-49-1 HCPLUS				
CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)				



RN 616-38-6 HCPLUS
CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 2550-62-1 HCPLUS
CN Methanesulfonic acid, lithium salt (9CI) (CA INDEX NAME)



● Li

RN 7447-41-8 HCPLUS

CN Lithium chloride (LiCl) (9CI) (CA INDEX NAME)

Cl-Li

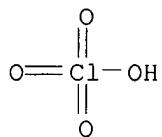
RN 7550-35-8 HCAPLUS

CN Lithium bromide (LiBr) (9CI) (CA INDEX NAME)

Br-Li

RN 7791-03-9 HCAPLUS

CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

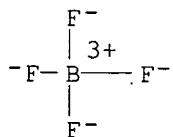
RN 12190-79-3 HCAPLUS

CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

Component	Ratio	Component	
		Registry Number	
O	2	17778-80-2	
Co	1	7440-48-4	
Li	1	7439-93-2	

RN 14283-07-9 HCAPLUS

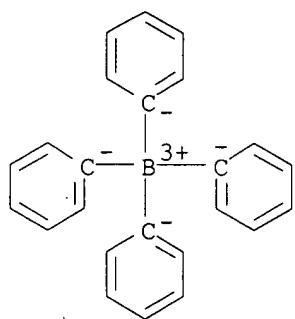
CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

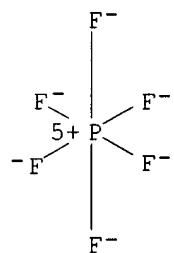
RN 14485-20-2 HCAPLUS

CN Borate(1-), tetraphenyl-, lithium (8CI, 9CI) (CA INDEX NAME)



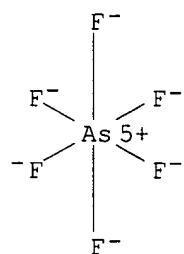
● Li⁺

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

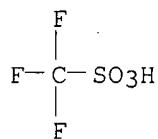
RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 33454-82-9 HCAPLUS

CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

IT 288-47-1, Thiazole
 RL: MOA (Modifier or additive use); USES (Uses)
 (nonaq. electrolyte secondary battery)
 RN 288-47-1 HCAPLUS
 CN Thiazole (6CI, 8CI, 9CI) (CA INDEX NAME)



(6)

L188 ANSWER 19 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2001:566868 HCAPLUS
 DN 135:139860
 TI Electrolytes for dual graphite energy storage system
 IN Massaro, Lisa Marie; Lewandowski, Thongkhahn P.; Huang, Sui-Yang; Maclean, Gregory Kenneth; Ellis, Heather N.; Orabone, William E., Jr.
 PA Lion Compact Energy, Inc., USA
 SO PCT Int. Appl., 29 pp.
 CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001056101	A1	20010802	WO 2001-US2533	20010126 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA	2365631	A1	20010802	CA 2001-2365631	20010126 <--
AU	2001031161	A5	20010807	AU 2001-31161	20010126 <--
EP	1183746	A1	20020306	EP 2001-903331	20010126 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP	2003520687	T	20030708	JP 2001-554826	20010126 <--
JP	2003521102	T	20030708	JP 2001-555155	20010126 <--
PRAI	US 2000-178177P	P	20000126 <--		
	US 2000-178217P	P	20000126 <--		

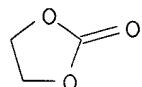
US 2000-178241P P 20000126 <--
 WO 2001-US2533 W 20010126 <--
 WO 2001-US2634 W 20010126 <--

AB There is provided an electrolyte recirculation system including a salt concentration monitor, a pump, and a salt reservoir. Also provided by the present invention is an electrolyte for use in a dual graphite cell, the electrolyte being made of a solvent that dissolves at least 15 weight% salt. There is also provided an electrolyte for use in a dual graphite cell, the electrolyte stable above 5 V. Also provided is an electrolyte for use in a dual graphite cell, the electrolyte including a multiple solvent electrolyte that dissolves in at least 15 weight% LiClO₄.

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium triflate
 RL: DEV (Device component use); USES (Uses)
 (electrolytes for dual graphite energy storage system)

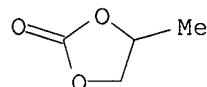
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



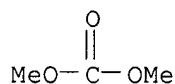
RN 108-32-7 HCAPLUS

CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



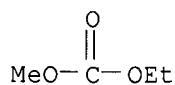
RN 616-38-6 HCAPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



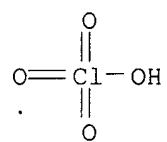
RN 623-53-0 HCAPLUS

CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



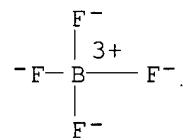
RN 7791-03-9 HCAPLUS

CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)

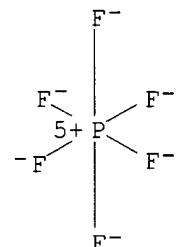


● Li

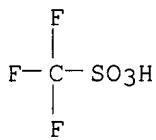
RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

● Li⁺

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

● Li⁺

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

IT 110-00-9, furan
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrolytes for dual graphite energy storage system)
 RN 110-00-9 HCAPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

(2)



RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
McCullough	1989			US 4830938 A	HCAPLUS
McCullough	1989			US 4865931 A	HCAPLUS
McCullough	1996			US 5518836 A	HCAPLUS
McCullough	1996			US 5532083 A	HCAPLUS

L188 ANSWER 20 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:449916 HCAPLUS

DN 135:45792

TI Methods of purifying organic lithium salts

IN Gorkovenko, Alexander; Soloveichik, Grigorii L.

PA Moltech Corporation, USA

SO U.S., 16 pp., Cont.-in-part of U.S. Ser. No. 127,468, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6248883	B1	20010619	US 1998-205873	19981204 <--
	WO 2000006538	A1	20000210	WO 1999-US17347	19990729 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9953293	A1	20000221	AU 1999-53293	19990729 <--
PRAI	US 1998-127468	B2	19980731 <--		
	US 1998-205873	A	19981204 <--		

WO 1999-US17347 W 19990729 <--

AB Provided are methods of purification of an organic lithium salt comprising the steps of: (a) dissolving an impure organic lithium salt in a solution comprising an organic complexing solvent; (b) crystallizing from said solution a solid solvate complex comprising said lithium salt and said organic complexing solvent; (c) separating said solid solvate complex from said solution; (d) dissociating said solid solvate complex to yield: (i) said lithium salt in a solid form, and, (ii) a volatile composition comprising said organic complexing solvent; and, (e) removing said volatile composition to yield said lithium salt in a solid form of purity greater than the purity of said impure lithium salt. The present invention also pertains to electrolytes for elec. current producing cells comprising such purified lithium salts. Thus, $(CF_3SO_2)_2NLi$ was purified by crystallization of the 1,4-dioxane complex and heating under vacuum at 125° to remove the dioxane.

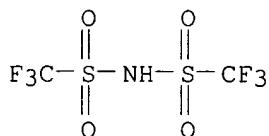
IT 90076-65-6P, Lithium bis(trifluoromethylsulfonyl)imide

RL: DEV (Device component use); PUR (Purification or recovery); PREP (Preparation); USES (Uses)

(purification by crystallization of ether complex for use as **battery** electrolyte)

RN 90076-65-6 HCPLUS

CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

IT 109-99-9, Tetrahydrofuran, reactions 110-00-9, Furan

RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(purification of organic lithium salts by ether complexation, crystallization and removal)

RN 109-99-9 HCPLUS

CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 110-00-9 HCPLUS

CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

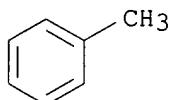


(2)

IT 7439-93-2DP, Lithium, salts, preparation
 RL: PUR (Purification or recovery); PREP (Preparation)
 (purification of organic lithium salts by ether complexation,
 crystallization
 and removal)
 RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

IT 108-88-3, Toluene, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvent for purification of organic lithium salts by ether
 complexation, crystallization and removal)
 RN 108-88-3 HCAPLUS
 CN Benzene, methyl- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Anon	1994			FR 2698631	HCAPLUS
Anon	1997			JP 09255685	HCAPLUS
Armand	1985			US 4505997	HCAPLUS
Bowden	1982			US 4321314	HCAPLUS
Bowden	1989			US 4880714	HCAPLUS
Brouillette	1998	27	151	J Solution Chem	HCAPLUS
Choquette	1998	145	3500	J Electrochem Soc	HCAPLUS
Cotton	1972		199	Advanced Inorganic C	MEDLINE
Couture	1996	74	153	Can J Chem	HCAPLUS
Dominey	1987			Novel Stable, Non-Co	
Kita	1997	68	307	J Power Sources	HCAPLUS
Krause	1997	68	320	J Power Sources	HCAPLUS
Lamanna	1997			US 5652072	HCAPLUS
Langer	1975			US Re28456	
Laverdure	1988		692	Proceedings of the S	HCAPLUS
Lee	1996			US 5538812	HCAPLUS
Luehrs	1976			US 3977900	HCAPLUS
Nalewajek	1990			US 4895778	HCAPLUS
Newman	1981			US 4308324	HCAPLUS
Olsher	1991	91	137	Chem Rev	HCAPLUS
Pacey	1987			US 4659815	HCAPLUS
Pedersen	1971			US 3562295	
Pedersen	1972			US 3687978	
Pedersen	1976			US 3987061	HCAPLUS
Sandman	1988	89	111	J Crystal Growth	HCAPLUS
Stoffel	1991			US 4994110	HCAPLUS
Waddell	1996			US 5514493	HCAPLUS

AN 2001:46267 HCPLUS

DN 134:118341

TI Secondary nonaqueous electrolyte batteries using improved anodes and electrolytes, and manufacture of the batteries

IN Maekawa, Yukio

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001015172	A	20010119	JP 1999-240599	19990826 <--
PRAI JP 1999-118296	A	19990426	<--	

AB Secondary nonaq. electrolyte batteries have cathode sheets containing Li-containing mixed rare earth oxides as active materials, anode sheets containing Li-intercalatable C materials and having auxiliary layers bonded to Li-based metal foils, and nonaq. electrolytes containing Li salts and additives selected from hydrazines and aromatic compds. The battery components are assembled and aged for permeation of Li into the anodes to give the secondary batteries. The batteries have high capacity.

IT 12190-79-3, Cobalt lithium oxide (CoLiO₂)

RL: DEV (Device component use); USES (Uses)

(cathodes; secondary nonaq. electrolyte batteries using anodes bonded to Li-containing foils and electrolytes containing hydrazines and/or aromatic compds.)

RN 12190-79-3 HCPLUS

CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

Component	Ratio	Component	
			Registry Number
O	2		17778-80-2
Co	1		7440-48-4
Li	1		7439-93-2

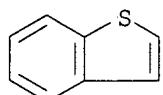
IT 95-15-8, Benzothiophene 271-89-6, Benzofuran

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(electrolyte solns. containing; secondary nonaq. electrolyte batteries using anodes bonded to Li-containing foils and electrolytes containing hydrazines and/or aromatic compds.)

RN 95-15-8 HCPLUS

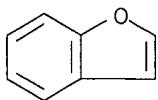
CN Benzo[b]thiophene (8CI, 9CI) (CA INDEX NAME)



(3)

RN 271-89-6 HCPLUS

CN Benzo[b]thiophene (8CI, 9CI) (CA INDEX NAME)



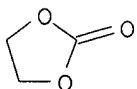
(3)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
108-32-7, Propylene carbonate

RL: DEV (Device component use); USES (Uses)
(electrolyte solns.; secondary nonaq. electrolyte batteries using
anodes bonded to Li-containing foils and electrolytes containing
hydrazines and/or aromatic compds.)

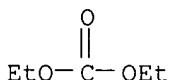
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



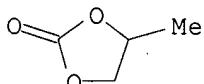
RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 108-32-7 HCPLUS

CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



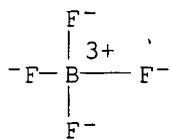
IT 14283-07-9, Lithium tetrafluoroborate 21324-40-3

, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)
(electrolyte; secondary nonaq. electrolyte batteries using anodes
bonded to Li-containing foils and electrolytes containing hydrazines
and/or aromatic compds.)

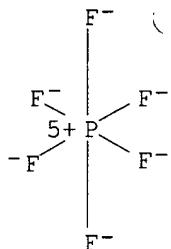
RN 14283-07-9 HCPLUS

CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

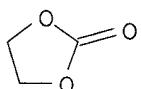
IT 7439-93-2, Lithium, uses
 RL: DEV (Device component use); USES (Uses)
 (foil; secondary nonaqueous electrolyte batteries using anodes bonded to
 Li-containing foils and electrolytes containing hydrazines and/or aromatic
 compds.)
 RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

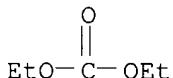
L188 ANSWER 22 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2001:46265 HQAPLUS
 DN 134:118340
 TI Ionic conductors and secondary lithium ion batteries using them
 IN Tsuchiya, Shuji; Nanai, Satonari
 PA Matsushita Electric Industrial Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
PI JP 2001015166	A	20010119	JP 1999-187276	19990701 <--

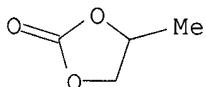
PRAI JP 1999-187276 19990701 <--
 AB Solid or gelled ionic conductors contain (non)ionic polymers,
 N,N'-disubstituted imidazolium compds. or aromatic group-containing quaternary
 ammonium compds., and other cations. Secondary Li ion batteries
 using electrolyte solns. containing the solid or gelled ionic conductors show
 high ionic conductivity and high capacity.
 IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
 108-32-7, Propylene carbonate
 RL: DEV (Device component use); USES (Uses)
 (electrolyte solution; ionic conductors containing (non)ionic polymers,
 imidazolium compds. or quaternary ammonium compds., and other cations
 for secondary Li ion battery electrolytes)
 RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



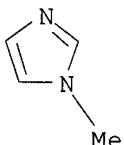
RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



IT 616-47-7, 1-Methylimidazole
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in preparation of imidazolium compds.; ionic conductors containing
 (non)ionic
 polymers, imidazolium compds. or quaternary ammonium compds., and other
 cations for secondary Li ion battery electrolytes)
 RN 616-47-7 HCAPLUS
 CN 1H-Imidazole, 1-methyl- (9CI) (CA INDEX NAME)



(6)

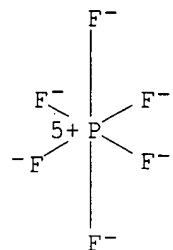
IT 7439-93-2DP, Lithium, complexes with imidazolium compds.
 or quaternary ammonium compds. and polymers, uses 21324-40-3DP,
 Lithium hexafluorophosphate, complexes with imidazolium compds. or
 quaternary ammonium compds. and polymers

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (ionic conductors containing (non)ionic polymers, imidazolium compds. or
 quaternary ammonium compds., and other cations for secondary Li
 ion battery electrolytes)

RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

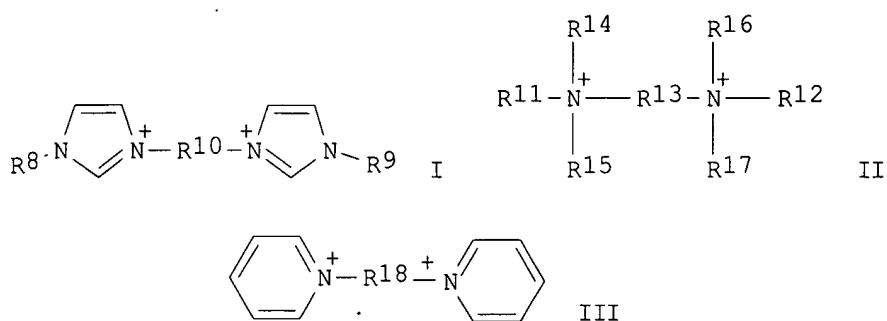


● Li⁺

L188 ANSWER 23 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2000:723536 HCAPLUS
 DN 133:298800
 TI Carbonaceous materials and their manufacture, vanadium oxide derivatives,
 solid ion conductive electrochemical elements, and secondary nonaqueous
 electrolyte batteries
 IN Watanabe, Kazuhiro; Nichogi, Katsuhiro; Nanai, Satonari; Miyamoto, Akihito
 PA Matsushita Electric Industrial Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000285921	A	20001013	JP 1999-155011	19990602 <--
PRAI JP 1998-163134	A	19980611	<--	
			JP 1999-16754	A 19990126 <--
OS MARPAT 133:298800				

 GI



AB The carbonaceous materials are heat treated hardened resin, and are prepared by mixing the resin with an aromatic compds. having 2-10 rings and hardening the mixture. The solid ion electrochem. elements contain cations selected from imidazole radical ion or its derivative, having aliphatic C connected to the

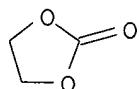
N atoms, quaternary ammonium ion, I (R8 and R9 = substituents having aliphatic C connected directly to N; R10 = aliphatic C containing group), II (R14-R17 = substituents having aliphatic C connected directly to N; R11-R13 = C containing groups which may also contain aromatic groups), III (R18 = substituent containing aliphatic C), and IV (R21 and R22 = substituents having aliphatic C connected directly to N) mixed with other cations, e.g., metal ions selected from alkali metals, alkaline earth, Ag, Cu, and Zn. The batteries use the carbonaceous material for Li intercalating anodes, the conductive material as solid electrolyte, and V oxide derivs., $A_xV_4-zM_zO_{11}$ or $A_xB_yV_4-zM_zO_{11}$ (A and B and M are metals, $x \leq y \leq 4$, and $z \leq 4$) for cathodes.

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 616-47-7D, 1-Methylimidazole, reaction products with dibromo hydrocarbons 21324-40-3, Lithium

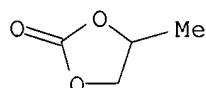
hexafluorophosphate
RL: DEV (Device component use); USES (Uses)
(electrolyte solns. containing quaternary ammonium salts and other salts
for secondary lithium batteries)

RN 96-49-1 HCAPLUS

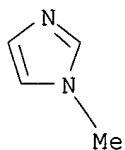
CN 1, 3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 108-32-7 HCPLUS
CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)

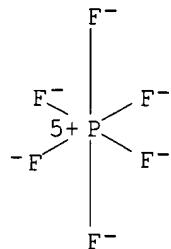


RN 616-47-7 HCPLUS
CN 1H-Imidazole, 1-methyl- (9CI) (CA INDEX NAME)



(6)

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

IT 301358-95-2, Copper lithium vanadium oxide
 (CuLi1.8V4O11) 301358-97-4, Lithium vanadium oxide
 (Li1.8V4O11) 301359-02-4, Copper lithium molybdenum
 vanadium oxide (Cu₂Li_{0.5}Mo_{0.2}V₃.8O₁₁)
 RL: DEV (Device component use); USES (Uses)
 (substituted copper vanadium oxide cathodes for secondary solid
 electrolyte lithium batteries with carbonaceous anodes)

RN 301358-95-2 HCAPLUS
 CN Copper lithium vanadium oxide (CuLi1.8V4O11) (9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	11	17778-80-2
V	4	7440-62-2
Cu	1	7440-50-8
Li	1.8	7439-93-2

RN 301358-97-4 HCAPLUS
 CN Lithium vanadium oxide (Li1.8V4O11) (9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	11	17778-80-2
V	4	7440-62-2
Li	1.8	7439-93-2

RN 301359-02-4 HCAPLUS
 CN Copper lithium molybdenum vanadium oxide (Cu₂Li_{0.5}Mo_{0.2}V₃.8O₁₁) (9CI) (CA INDEX NAME)

Component | Ratio | Component

			Registry Number
O		11	17778-80-2
V		3.8	7440-62-2
Cu		2	7440-50-8
Mo		0.2	7439-98-7
Li		0.5	7439-93-2

L188 ANSWER 24 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2000:665699 HCAPLUS

DN 133:254952

TI Polymer electrolyte for lithium secondary batteries

IN Oyama, Noboru

PA Japan

SO Eur. Pat. Appl., 32 pp.

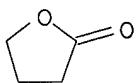
CODEN: EPXXDW

DT Patent

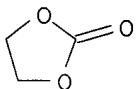
LA English

FAN.CNT 1

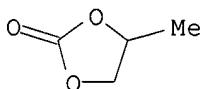
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1037294	A2	20000920	EP 2000-105773	20000317 <--
	EP 1037294	A3	20030730		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001189166	A	20010710	JP 2000-70790	20000314 <--
	CA 2301414	A1	20000917	CA 2000-2301414	20000316 <--
	US 6509122	B1	20030121	US 2000-527569	20000316 <--
	CN 1267683	A	20000927	CN 2000-104319	20000317 <--
	AU 770639	B2	20040226	AU 2000-22331	20000317 <--
	US 2003082458	A1	20030501	US 2002-227532	20020826 <--
	US 7105254	B2	20060912		
PRAI	JP 1999-71758	A	19990317 <--		
	JP 1999-295503	A	19991018 <--		
	US 2000-527569	A3	20000316 <--		
AB	A polymer electrolyte providing lithium secondary batteries in which growth of lithium dendrites is suppressed and batteries exhibiting excellent discharge characteristics in low to high temperature, comprises a polymer gel holding a nonaq. solvent containing an electrolyte. The polymer gel comprises (I) a unit derived from at least one monomer having one copolymerizable vinyl group and (II) a unit derived from at least one compound selected from the group consisting of (II-a) a compound having two acryloyl groups and a (poly)oxyethylene group, (II-b) a compound having one acryloyl group and a (poly)oxyethylene group, and (II-c) a glycidyl ether compound, particularly the polymer gel comprises monomer (I), compound (II-a), and a copolymerizable plasticizing compound				
IT	96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 288-32-4D, Imidazole, alkyl derivative 7439-93-2, Lithium, uses 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6 131651-65-5 132404-42-3				
	RL: DEV (Device component use); USES (Uses) (polymer electrolyte for lithium secondary batteries)				
RN	96-48-0 HCAPLUS				
CN	2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)				



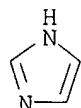
RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



RN 288-32-4 HCAPLUS
 CN 1H-Imidazole (9CI) (CA INDEX NAME)

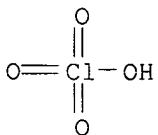


(6)

RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

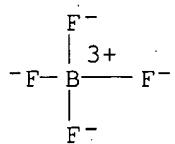
Li

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



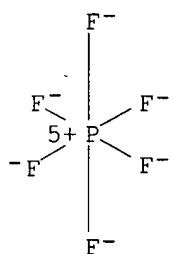
● Li

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



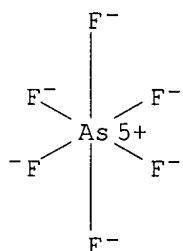
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



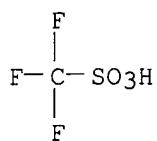
● Li^+

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



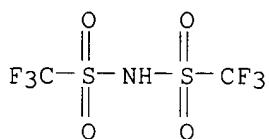
● Li^+

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



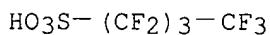
● Li

RN 90076-65-6 HCPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



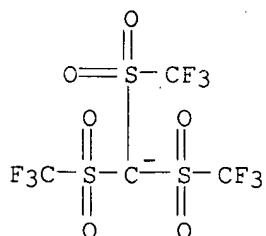
● Li

RN 131651-65-5 HCPLUS
 CN 1-Butanesulfonic acid, 1,1,2,2,3,3,4,4-nonafluoro-, lithium salt (9CI) (CA INDEX NAME)



● Li

RN 132404-42-3 HCPLUS
 CN Methane, tris[(trifluoromethyl)sulfonyl]-, ion(1-), lithium (9CI) (CA INDEX NAME)



● Li⁺

L188 ANSWER 25 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2000:377134 HCAPLUS
 DN 132:350299
 TI Nonaqueous electrolyte batteries
 IN Kita, Akinori; Satori, Kotaro; Komaru, Atsuo; Takahashi, Akio
 PA Sony Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 27 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000156243	A	20000606	JP 1998-328506	19981118 <--
PRAI JP 1998-328506		19981118	<--	
OS MARPAT 132:350299				

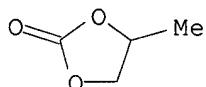
AB The batteries have a nonaq. electrolyte solution containing an organic compound, which has a reversible redox potential higher than the potential of the fully charged cathode. Preferably, the organic compound has π orbitals and is selected from (halogenated) derivatives of benzene, biphenyl, naphthalene, naphthalic anhydride containing alkyl, alkoxy, amino, and/or nitro groups and coumarin. The additives improves battery safety.

IT 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 21324-40-3, Lithium hexafluorophosphate
 RL: DEV (Device component use); USES (Uses)

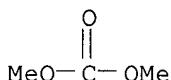
(nonaq. electrolyte solns. containing aromatic compound additives in secondary

lithium batteries for safety)

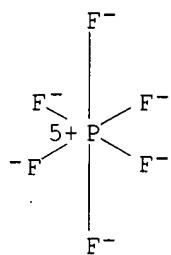
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

IT 130-15-4, 1,4-Naphthalenedione 524-42-5,

1,2-Naphthalenedione

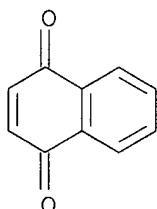
RL: MOA (Modifier or additive use); USES (Uses)

(nonaq. electrolyte solns. containing aromatic compound additives in secondary

lithium batteries for safety)

RN 130-15-4 HCAPLUS

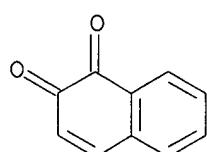
CN 1,4-Naphthalenedione (9CI) (CA INDEX NAME)



5

RN 524-42-5 HCAPLUS

CN 1,2-Naphthalenedione (9CI) (CA INDEX NAME)



5

L188 ANSWER 26 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:133026 HCAPLUS

DN 132:154449

TI Secondary nonaqueous electrolyte batteries

IN Takahashi, Masatoshi; Yasutake, Zensaku; Abe, Hiroshi; Ueki, Akira; Takai, Tsutomu

PA Sanyo Electric Co., Ltd., Japan; Ube Industries, Ltd.

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000'058117 JP 2983205	A B2	20000225 19991129	JP 1998-218001	19980731 <--
PRAI	JP 1998-218001		19980731 <--		

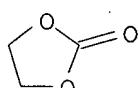
OS MARPAT 132:154449

AB The batteries use an electrolyte solution containing a **Li** salt dissolved in an aromatic ether ROR', where R = C₆H₅, allyl, or alkylphenyl group; R' = C₁-6 alkyl, Ph, allyl, or alkylphenyl group; and R and R' many form a C₅-6 ring.

IT **96-49-1**, Ethylene carbonate **105-58-8**, Diethyl carbonate **616-38-6**, Dimethyl carbonate **623-53-0**, Ethyl methyl carbonate **14283-07-9**, Lithium fluoroborate **21324-40-3**, Lithium hexafluorophosphate
RL: DEV (Device component use); USES (Uses)
(electrolyte solvents containing aromatic ether derivs. for secondary lithium batteries)

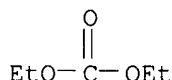
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



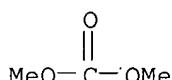
RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



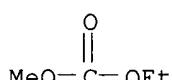
RN 616-38-6 HCPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



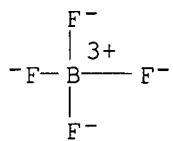
RN 623-53-0 HCPLUS

CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



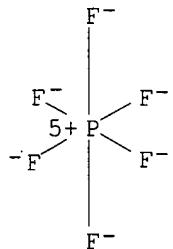
RN 14283-07-9 HCPLUS

CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



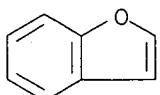
● Li^+

RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

IT 271-89-6, Benzofuran
 RL: MOA (Modifier or additive use); USES (Uses)
 (electrolyte solvents containing aromatic ether derivs. for secondary
 lithium batteries)
 RN 271-89-6 HCPLUS
 CN Benzofuran (6CI, 8CI, 9CI) (CA INDEX NAME)

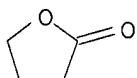


3

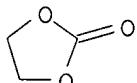
L188 ANSWER 27 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 2000:95943 HCPLUS
 DN 132:125353
 TI Boron compounds as anion binding agents for nonaqueous **battery**
 electrolytes
 IN Lee, Hung Sui; Yang, Xia-oing; McBreen, James; Xiang, Caili
 PA Brookhaven Science Associates, USA
 SO U.S., 11 pp.
 CODEN: USXXAM
 DT Patent
 LA English

FAN.CNT 2

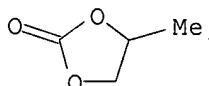
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6022643 US 6352798	A B1	20000208 20020305	US 1997-986846 US 2000-492569	19971208 <-- 20000127 <--
PRAI	US 1997-986846	A2	19971208 <--		
AB	Novel fluorinated boron-based compds. which act as anion receptors in nonaq. battery electrolytes are provided. The anion receptor is a compound of formula Q3B, where Q is a F-bearing moiety selected from the group of (CF ₃) ₂ CHO, (CF ₃) ₂ C(C ₆ H ₅)O, (CF ₃) ₃ CO, FC ₆ H ₄ O, F ₂ C ₆ H ₃ O, F ₄ C ₆ HO, C ₆ F ₅ O, CF ₃ C ₆ H ₄ O, and (CF ₃) ₂ C ₆ H ₃ O. When added to nonaq. battery electrolytes, the fluorinated boron-based compds. of the invention enhance ionic conductivity and cation transference number of nonaq. electrolytes. The fluorinated boron-based anion receptors include borane and borate compds. bearing different fluorinated alkyl and aryl groups.				
IT	96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 109-99-9, uses 534-22-5, 2-Methylfuran 616-38-6, Dimethyl carbonate 7439-93-2, Lithium, uses 7439-93-2D, Lithium, intercalation compound with carbon, uses 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide 7791-03-9 10377-51-2, Lithium iodide 12057-17-9, Lithium manganese oxide limn ₂ o ₄ 12190-79-3, Cobalt lithium oxide colio ₂ 14283-07-9, Lithium tetrafluoroborate 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate RL: DEV (Device component use); USES (Uses) (boron compds. as anion binding agents for nonaq. battery electrolytes)				
RN	96-48-0	HCAPLUS			
CN	2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)				



RN 96-49-1 HCAPLUS
CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 108-32-7 HCAPLUS
CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)

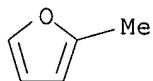


RN 109-99-9 HCAPLUS
CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)

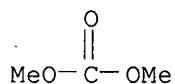


RN 534-22-5 HCAPLUS
 CN Furan, 2-methyl- (8CI, 9CI) (CA INDEX NAME)

(2)



RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

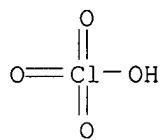
RN 7447-41-8 HCAPLUS
 CN Lithium chloride (LiCl) (9CI) (CA INDEX NAME)

Cl-Li

RN 7550-35-8 HCAPLUS
 CN Lithium bromide (LiBr) (9CI) (CA INDEX NAME)

Br-Li

RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 10377-51-2 HCPLUS
 CN Lithium iodide (LiI) (9CI) (CA INDEX NAME)

I-Li

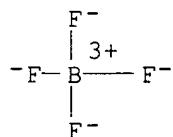
RN 12057-17-9 HCPLUS
 CN Lithium manganese oxide (LiMn₂O₄) (6CI, 7CI, 9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	4	17778-80-2
Mn	2	7439-96-5
Li	1	7439-93-2

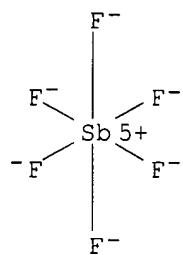
RN 12190-79-3 HCPLUS
 CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

RN 14283-07-9 HCPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

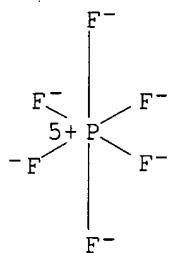
● Li⁺

RN 18424-17-4 HCPLUS
 CN Antimonate(1-), hexafluoro-, lithium, (OC-6-11)- (9CI) (CA INDEX NAME)



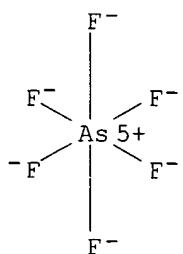
● Li⁺

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
----------------------------	----------------	---------------	--------------	---------------------------	-----------------

Angell	1998			US 5849432	HCAPLUS	
Castellanos	1995			US 5468902	HCAPLUS	
Dejonghe	1989			US 4833048	HCAPLUS	
Gregory	1988			US 4752544	HCAPLUS	
Huang	1994			US 5278000		
Johnson	1980			US 4201839	HCAPLUS	
Lamanna	1996			US 5514728	HCAPLUS	
Lee	1996	143	3825	J Electrochem Soc	HCAPLUS	
Lonergan	1995	117	2344	J Am Chem Soc	HCAPLUS	
Morita	1987	134	2107	J Electrochem Soc	HCAPLUS	
Salomon, J	1990	19	1225	Solution Chem		
Schmidtchen	1997	97	1609	Chemical Reviews	HCAPLUS	
Schroeder	1960			US 2951871	HCAPLUS	
Scrosati	1997			US 5645960		
Shacklette	1985			US 4522901	HCAPLUS	
Siedle	1995			US 5416177	HCAPLUS	
Sotomura	1997			US 5665492	HCAPLUS	
Yang	1994	101	7416	J Chem Phys		
Yang	1989	B40	7948	Phys Rev		

L188 ANSWER 28 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:388384 HCAPLUS

DN 131:21348

TI Battery comprising a liquid organic electrolyte with a conductive additive
IN Green, Kevin John; Wilson, James Charles; Howe, Susan Jennifer; Barnes,
Philip Nicholas

PA The Secretary of State for Defence, UK

SO PCT Int. Appl., 15 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9930379	A1	19990617	WO 1998-GB3615	19981208 <--
	W: CN, GB, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	GB 2346256	A	20000802	GB 2000-10773	19981208 <--
	GB 2346256	B	20010822		
	EP 1055262	A1	20001129	EP 1998-959000	19981208 <--
	EP 1055262	B1	20020320		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001526450	T	20011218	JP 2000-524833	19981208 <--
	ES 2171053	T3	20020816	ES 1998-959000	19981208 <--
	US 6596441	B1	20030722	US 2000-530998	20000509 <--
PRAI	GB 1997-26008	A	19971210 <--		
	WO 1998-GB3615	W	19981208 <--		

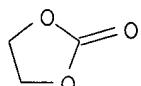
AB An electrochem. cell comprises an anode, a solid cathode and an
electrolyte. The electrolyte comprises an electrochem. reactive
conductive salt, an organic liquid phase comprising one or more organic
compds.;

and less than 0.25M of an ionically charged additive, distinct from the
electrochem. reactive conductive salt. The additive comprises a
conductive salt which in use is not electrochem. reactive and which has a
nitrogen containing cation in a sufficient quantity that conductivity is
improved and
percentage material utilization of the cathode is improved at increased

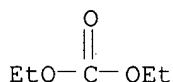
discharge rates as compared with a cell using an electrolyte which does not contain the additive. An improvement of approx. 10% in conductivity is achieved for a cell according to the invention using an electrolyte with an additive.

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
 108-32-7, Propylene carbonate 109-99-9, uses
 616-38-6, Dimethyl carbonate 623-53-0,
 Ethylmethylcarbonate
 RL: DEV (Device component use); TEM (Technical or engineered material
 use); USES (Uses)
 (battery comprising liquid organic electrolyte with conductive additive)

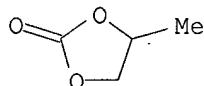
RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



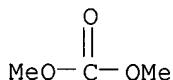
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



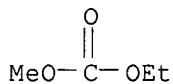
RN 109-99-9 HCAPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



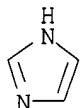
RN 623-53-0 HCAPLUS
 CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



IT 288-32-4D, 1H-Imidazole, tetraalkylammonium salts, uses
 7447-41-8, Lithium chloride, uses 7791-03-9,
 Lithium perchlorate 10377-52-3, Lithium
 phosphate 12676-27-6.
 RL: MOA (Modifier or additive use); USES (Uses)
 (battery comprising liquid organic electrolyte with conductive additive)

RN 288-32-4 HCAPLUS

CN 1H-Imidazole (9CI) (CA INDEX NAME)



(6)

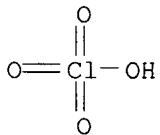
RN 7447-41-8 HCAPLUS

CN Lithium chloride (LiCl) (9CI) (CA INDEX NAME)

Cl-Li

RN 7791-03-9 HCAPLUS

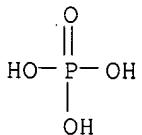
CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 10377-52-3 HCAPLUS

CN Phosphoric acid, trolithium salt (8CI, 9CI) (CA INDEX NAME)



●3 Li

RN 12676-27-6 HCAPLUS

CN Boric acid, lithium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RETABLE

Referenced Author (RAU)	Year	VOL	PG	Referenced Work (RWK)	Referenced File
	(R PY)	(R VL)	(R PG)		
Centre Nat Etd Spatiale	1994			FR 2704099 A	HCAPLUS
Fuji Photo Film Co Ltd	1997			EP 0785586 A	HCAPLUS
Hirai, T	1994	141	2300	Journal of the Elect	HCAPLUS
Kearney, S	1985			US 4526846 A	HCAPLUS
Matsushita Electric Ind	1988			JP 63301467 A	HCAPLUS
Soffer, A	1979			US 4132837 A	HCAPLUS

L188 ANSWER 29 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:113260 HCAPLUS

DN 130:141661

TI Secondary nonaqueous electrolyte batteries

IN Sakai, Kenichi; Yamamoto, Kenji; Ueda, Naoki; Urushibara, Masaru

PA Nippon Denso Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

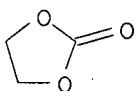
CODEN: JKXXAF

DT Patent

LA Japanese

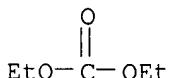
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11040194	A	19990212	JP 1997-192239	19970717 <--
PRAI	JP 1997-192239		19970717 <--		
AB	The batteries use an electrolyte containing an optical stabilizing agent selected from naphthoquinone, fluorene, epoxides, 1,1-diphenyl-2-picrylhydrazyl compds., and hindered amines.				
IT	96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 616-38-6, Dimethyl carbonate 21324-40-3, Lithium hexafluorophosphate				
	RL: DEV (Device component use); USES (Uses) (nonaq. electrolyte solns. contg. optical stabilizing agents for secondary lithium batteries)				
RN	96-49-1 HCAPLUS				
CN	1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)				



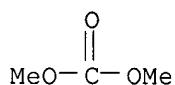
RN 105-58-8 HCAPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)

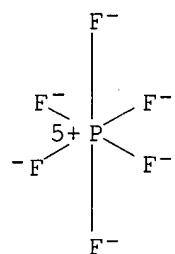


RN 616-38-6 HCAPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)

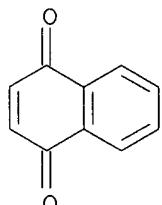


RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

IT 130-15-4, 1,4-Naphthalenedione
 RL: MOA (Modifier or additive use); USES (Uses)
 (nonaq. electrolyte solns. contg, optical stabilizing agents for
 secondary **lithium** batteries)
 RN 130-15-4 HCPLUS
 CN 1,4-Naphthalenedione (9CI). (CA INDEX NAME)



(4)

L188 ANSWER 30 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:421186 HCPLUS
 DN 129:56517
 TI Nonaqueous electrolyte batteries and secondary polymer electrolyte
 batteries
 IN Arai, Kayo; Katsumata, Toshio
 PA Toshiba Battery Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO..	DATE
-----	-----	-----	-----	-----
PI JP 10172615	A	19980626	JP 1996-336854	19961217 <--

PRAI JP 1996-336854

19961217 <--

AB Nonaq. electrolyte batteries use cathodes, anodes, and/or separators containing a fire retardant which generates a volatile noncombustible substance at high temperature Secondary polymer electrolyte Li batteries use cathodes, anodes, and/or electrolyte retaining polymers containing a fire retardant which generates a volatile noncombustible substance at high temperature The fire retardant is preferably tetrabromo bisphenol A or mixts. of tetrabromo bisphenol A and Sb oxide.

IT 79-94-7, Tetrabromo bisphenol A 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 12057-17-9,

Lithium manganese oxide (LiMn₂O₄) 21324-40-3,

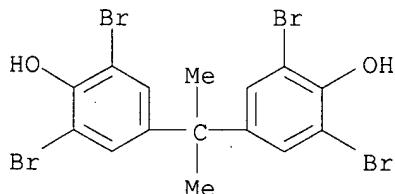
Lithium hexafluorophosphate

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(tetrabromo bisphenol A and antimony oxide fire retardants for electrodes and separators and polymer electrolytes in secondary lithium batteries)

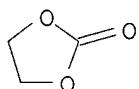
RN 79-94-7 HCAPLUS

CN Phenol, 4,4'-(1-methylethyldene)bis[2,6-dibromo- (9CI) (CA INDEX NAME)



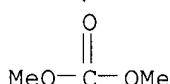
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 616-38-6 HCAPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX



RN 12057-17-9 HCAPLUS

CN Lithium manganese oxide (LiMn₂O₄) (6CI, 7CI, 9CI) (CA INDEX NAME)

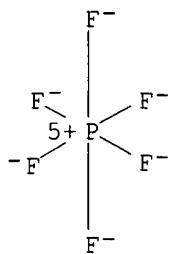
Component	Ratio	Component	
			Registry Number
O	4		17778-80-2
Mn	2		7439-96-5
Li	1		7439-93-2

RN 21324-40-3 HCAPLUS

CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

LEXIS-NEXIS
www.lexis-nexis.com

(Compound #1
is not substituted
as in this
reference)



● Li⁺

L188 ANSWER 31 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:190373 HCAPLUS

DN 128:232785

TI Secondary nonaqueous electrolyte **batteries** with aromatic additives in electrolytes

IN Nishino, Hajime; Kitagawa, Masaki; Ookochi, Masaya; Takeuchi, Takashi; Koshina, Masaru

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10079262	A	19980324	JP 1996-234023	19960904 <--
PRAI JP 1996-234023		19960904	<--	

AB The **batteries** use Li containing oxide cathodes, Li intercalating carbonaceous anodes, and electrolytes containing 0.1-20 volume% heterocyclic aromatic compound having ≥1 lone electron pairs. The compound is selected from pyridine, pyrimidine, furan, thiophene, and their derivs.

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate

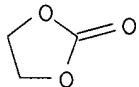
21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)

(electrolytes containing heterocyclic aromatic additives for secondary lithium **batteries**)

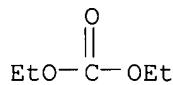
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)

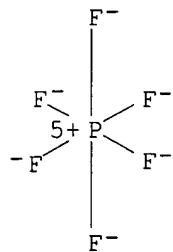


RN 105-58-8 HCAPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li^+

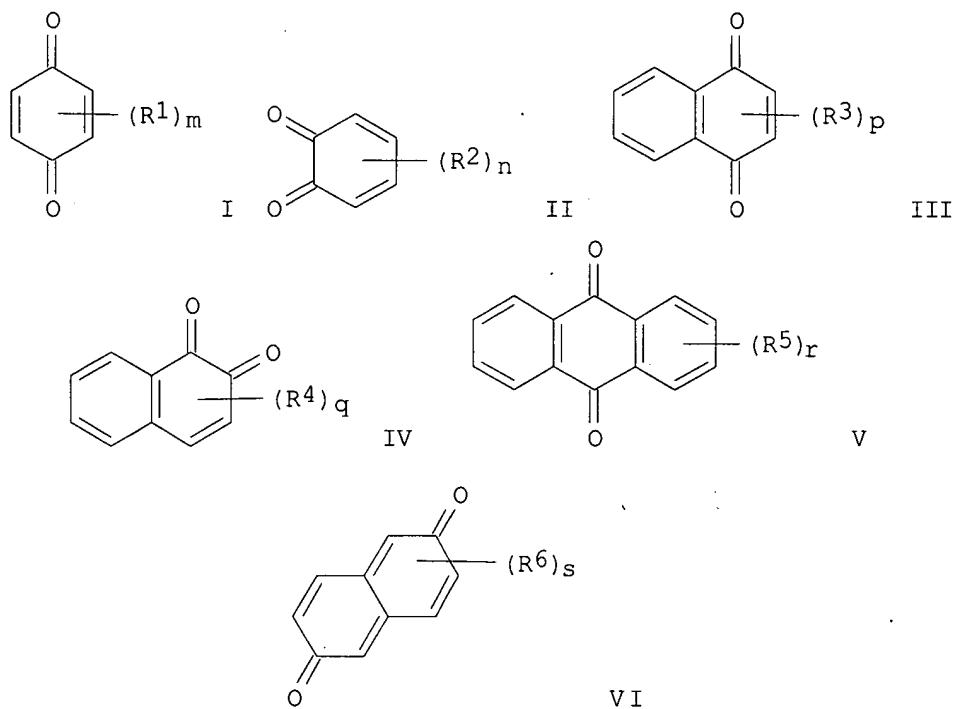
IT 110-00-9, Furan
 RL: MOA (Modifier or additive use); USES (Uses)
 (electrolytes containing heterocyclic aromatic additives for secondary
 lithium batteries)
 RN 110-00-9 HCPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

(2)



L188 ANSWER 32 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 1998:73247 HCPLUS
 DN 128:143160
 TI Secondary lithium batteries using electrolyte solutions
 containing quinone additives
 IN Maejima, Toshikazu
 PA Shin-Kobe Electric Machinery Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
PI JP 10021958	A	19980123	JP 1996-175180	19960704 <--
PRAI JP 1996-175180		19960704	<--	
OS MARPAT 128:143160				
GI				



AB The batteries use electrolyte solns. containing 0.001-0.2M quinone derivs. I-VI [m and n = 1-4, p, q, and s = 1-6, r = 1-8, R1-R6 = H, C1-4 alkyl, C6H5, F, Cl, Br, I, OH, OMe, OEt, CN, NH2, NMe2, SO3H, or COOR (R = H or C1-4 alkyl)] and/or their reduction products. The electrolyte solns may also contain 5-25% fire resistant phosphazanes. These additives improve the safety of the batteries.

IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate

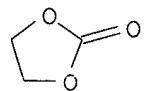
21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)

(secondary lithium batteries using electrolyte solns. containing (hydro)quinone and phosphazene additives)

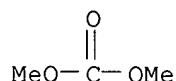
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



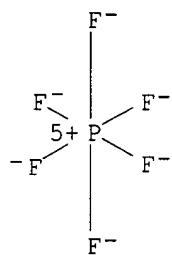
RN 616-38-6 HCAPLUS

CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 21324-40-3 HCAPLUS

CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



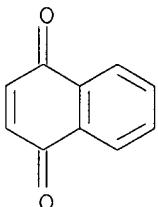
● Li⁺

IT 130-15-4, 1,4-Naphthalenedione 524-42-5,
1,2-Naphthalenedione

RL: MOA (Modifier or additive use); USES (Uses)
(secondary lithium batteries using electrolyte solns. containing
(hydro)quinone and phosphazene additives)

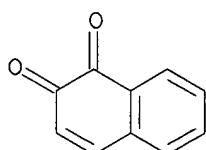
RN 130-15-4 HCPLUS

CN 1,4-Naphthalenedione (9CI) (CA INDEX NAME)



(4)

RN 524-42-5 HCPLUS
CN 1,2-Naphthalenedione (9CI) (CA INDEX NAME)



(5)

L188 ANSWER 33 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
AN 1997:273673 HCPLUS
DN 126:253368
TI Lithium batteries using improved electrolytes
IN Jinno, Maruo; Uehara, Mayumi; Yanai, Atsushi; Nishio, Koji; Saito, Toshihiko
PA Sanyo Denki Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09045339	A	19970214	JP 1995-212880	19950728 <--
PRAI JP 1995-212880		19950728	<--	

AB The **batteries** use LiCF₃SO₃ or LiPF₆ electrolyte dissolved in an ethylene carbonate based solvent mixture containing 1-20 volume% chain monoethers,

chain triethers, chain tetraethers, cyclic ethers, chain carbonate esters, lactones, 3-Pr sydnone, and/or C₆H₆. The **batteries** have low self discharge.

IT 71-43-2, Benzene, uses 96-47-9, 2-Methyltetrahydrofuran
 96-48-0, γ -Butyrolactone 96-49-1, Ethylene
 carbonate 105-58-8, Diethyl carbonate 109-99-9,
 Tetrahydrofuran, uses 110-00-9, Furan 534-22-5,
 2-Methylfuran 616-38-6, Dimethyl carbonate 623-53-0,
 Ethyl methyl carbonate 56525-42-9, Methyl propyl carbonate
 RL: DEV (Device component use); USES (Uses)

(compns. of ethylene carbonate based electrolyte solvent mixts. for lithium batteries)

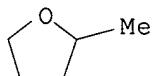
RN 71-43-2 HCPLUS

CN Benzene (8CI, 9CI) (CA INDEX NAME)



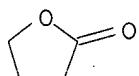
RN 96-47-9 HCPLUS

CN Furan, tetrahydro-2-methyl- (8CI, 9CI) (CA INDEX NAME)



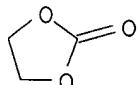
RN 96-48-0 HCPLUS

CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



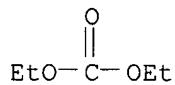
RN 96-49-1 HCPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



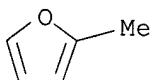
RN 109-99-9 HCPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



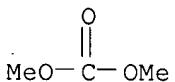
RN 110-00-9 HCPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)



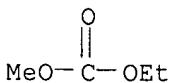
RN 534-22-5 HCPLUS
 CN Furan, 2-methyl- (8CI, 9CI) (CA INDEX NAME)



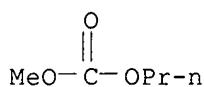
RN 616-38-6 HCPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



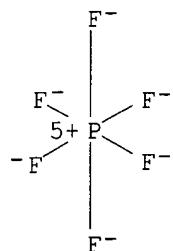
RN 623-53-0 HCPLUS
 CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 56525-42-9 HCPLUS
 CN Carbonic acid, methyl propyl ester (7CI, 9CI) (CA INDEX NAME)

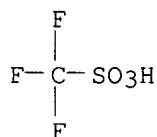


IT 21324-40-3, Lithium hexafluorophosphate
 33454-82-9, Lithium trifluoromethanesulfonate
 RL: DEV (Device component use); USES (Uses)
 (compns. of ethylene carbonate based solvent mixts. for lithium
 salt electrolytes in lithium batteries)
 RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 33454-82-9 HCPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



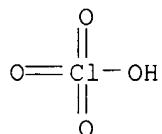
● Li

L188 ANSWER 34 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 1995:869783 HCPLUS
 DN 123:261775
 TI Nonaqueous-electrolyte batteries with improved electrolyte
 solutions for suppression of self discharge
 IN Suemori, Atsushi; Shoji, Yoshihiro; Nishio, Koji; Saito, Toshihiko
 PA Sanyo Electric Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 07192756 A 19950728 JP 1993-327899 19931224 <--
 PRAI JP 1993-327899 19931224 <--
 AB The **batteries** consist of cathodes and Li anodes and electrolytes containing LiPF6, LiClO4, LiCF3SO3, LiBF4, LiAsF6, and/or LiN(CF3SO2)2 and solvents containing ethylene carbonate, propylene carbonate, butylene carbonate, vinylene carbonate, 1,2-dimethoxyethane, di-Me carbonate, di-Et carbonate, Et Me carbonate, THF, and/or 1,3-dioxolane, where the electrolyte solns. are added with furan resins. The furan resins may be phenol-furfural resins, furfural-acetone resins, furfuryl alc. resins, and/or their derivs. The **batteries** suppress self discharge and have good storage stability.
 IT 7439-93-2, **Lithium**, uses
 RL: DEV (Device component use); USES (Uses)
 (anode; nonaq. electrolyte solns. containing furan resins for Li **batteries** for suppressing self discharge)
 RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

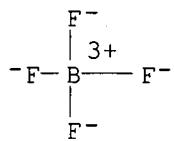
Li

IT 7791-03-9, **Lithium perchlorate** 14283-07-9,
Lithium tetrafluoroborate 21324-40-3, **Lithium hexafluorophosphate** 29935-35-1, **Lithium hexafluoroarsenate** 33454-82-9, **Lithium trifluoromethanesulfonate** 90076-65-6, **Lithium bis(trifluoromethylsulfonyl)amide**
 RL: DEV (Device component use); USES (Uses)
 (electrolyte; nonaq. electrolyte solns. containing furan resins for **Li batteries** for suppressing self discharge)
 RN 7791-03-9 HCAPLUS
 CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



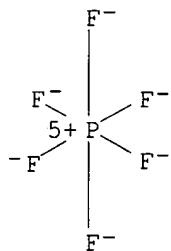
● Li

RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



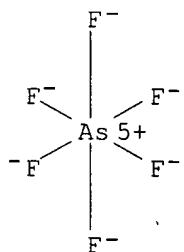
● Li^+

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



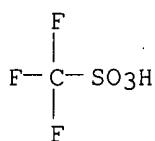
● Li^+

RN 29935-35-1 HCAPLUS
 CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



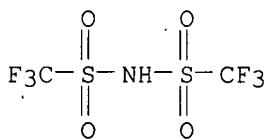
● Li^+

RN 33454-82-9 HCAPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



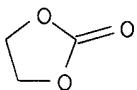
● Li

IT 110-00-9D, Furan, derivs., polymers
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (nonaq. electrolyte solns. containing furan resins for **Li batteries** for suppressing self discharge)
 RN 110-00-9 HCAPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

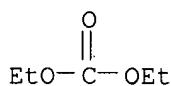


(2)

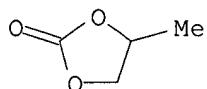
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran, uses 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 4437-85-8, Butylene carbonate
 RL: DEV (Device component use); USES (Uses)
 (solvent; nonaq. electrolyte solns. containing furan resins for **Li batteries** for suppressing self discharge)
 RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 105-58-8 HCAPLUS
 CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



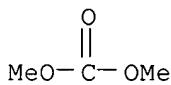
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



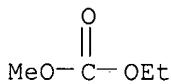
RN 109-99-9 HCAPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



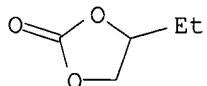
RN 616-38-6 HCAPLUS
 CN Carbonic acid, dimethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 623-53-0 HCAPLUS
 CN Carbonic acid, ethyl methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 4437-85-8 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-ethyl- (9CI) (CA INDEX NAME)



L188 ANSWER 35 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 1994:195934 HCAPLUS
 DN 120:195934
 TI Dispersion alloy anodes for batteries
 IN Yamauchi, Goro; Laman, Fred; Moriya, Kunio
 PA Advanced Energy Technologies Inc., Can.
 SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5278005	A	19940111	US 1992-864266	19920406 <--

PRAI	US 1992-864266	19920406 <--
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AB The anode material comprises a fine and uniform dispersion of second phase particles in lithium. The particles have an average particle size of 0.5-40 μm and are present at a concentration of 0.1-10 atomic%. The anode material exhibits a reduction in dendrite and mossy Li formation, while maintaining the necessary mech. properties of the material for easy working. The new anode demonstrates excellent cell performance and thermal stability.

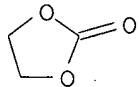
IT 96-49-1, 1,3-Dioxolan-2-one 108-32-7, Propylene carbonate 110-00-9, Furan 29935-35-1, Arsenic

lithium fluoride (asli6)

RL: DEV (Device component use); USES (Uses)
(electrolyte, in batteries with lithium dispersion alloy anodes)

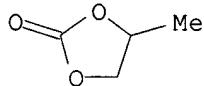
RN 96-49-1 HCAPLUS

CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 108-32-7 HCAPLUS

CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



RN 110-00-9 HCAPLUS

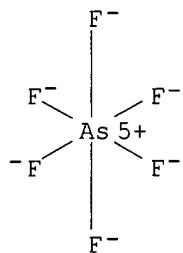
CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)



(2)

RN 29935-35-1 HCAPLUS

CN Arsenate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

L188 ANSWER 36 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN

AN 1994:151069 HCPLUS

DN 120:151069

TI Ionic conductive polymer electrolytes

IN Kono, Michuki; Motogami, Kenji; Mori, Shigeo

PA Dai Ichi Kogyo Seiyaku Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

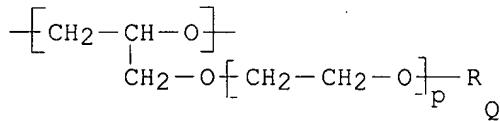
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05202281	A	19930810	JP 1992-34368	19920124 <--
	JP 3149247	B2	20010326		
	US 6019908	A	20000201	US 1992-998021	19921229 <--
PRAI	JP 1992-34368	A	19920124	<--	

GI



AB The title electrolytes comprise organic polymers described by the general formula Z[(E)m(A)nY]k (I; Z = active H-containing compound residue; Y = active H group, polymerizable reactive functional group; k = 1-12; E = O; p = 0-25; R = C1-20 alkyl, alkenyl, aryl, alkylaryl; A = CH2CH2O; m = 1-220; n = 1-240; m + n ≥ 4; E and A are linked randomly) with average mol. weight 500-50,000 crosslinked either by the reaction of active H-terminated compds. with crosslinkers or by polymerization of functional group-terminated compds., soluble electrolyte salts, and ≥ 1 organic solvent selected from THF, 2-methyltetrahydrofuran, 1,3-dioxolane, 4,4-dimethyl-1,3-dioxolane, γ-butyrolactone, ethylene carbonate, sulfolane, 3-methylsulfone (sic), tert-Bu ether, iso-Bu ether, 1,2-dimethoxyethane, 1,2-ethoxymethoxyethane, and ethylene glycol di-Et ether. Thus, 18 g glycerin was treated with a mixture of 730 g diethylene glycol glycidyl Me ether and 182 g ethylene oxide in the presence of KOH to give 876 g

Polyether with mol. weight 4700, which was esterified with 1.1 equivalent acrylic

acid to give acrylate-terminated polyether with mol. weight 4862. A solution containing the polyether 3.6, propylene carbonate 3.6, LiClO₄ 0.4, and 1-hydroxycyclohexyl Ph ketone 0.04 g was cast on a glass plate and UV-irradiated to give a 100 μm-thick polymer electrolyte which showed ionic conductivity 9.2 + 10⁻⁴ S/cm at 20°, 5.1 + 10⁻⁴ S/cm at 0°, and 2.5 + 10⁻⁴ S/cm at -20°.

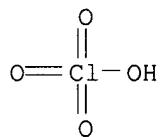
IT 7791-03-9, Lithium perchlorate

RL: USES (Uses)

(crosslinked polyethers containing organic solvents and, for electrolytes, ionic conductive, stable at low temps.)

RN 7791-03-9 HCPLUS

CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

IT 14283-07-9, Lithium tetrafluoroborate 33454-82-9

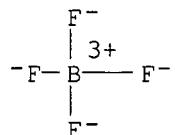
, Trifluoromethanesulfonic acid lithium salt

RL: USES (Uses)

(electrolytes from crosslinked polyethers containing organic solvents and, ionic conductive, stable at low temps.)

RN 14283-07-9 HCPLUS

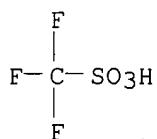
CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 33454-82-9 HCPLUS

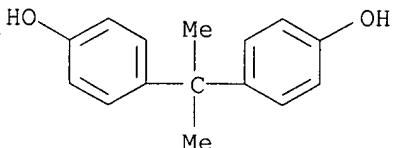
CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

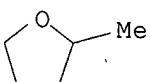
IT 80-05-7DP, Bisphenol A, reaction products with polyoxyethylene glycidyl Me ether and ethylene oxide, p-vinylbenzoates, polymers
 RL: PREP (Preparation)
 (preparation of, crosslinked, for electrolytes, containing lithium trifluoromethanesulfonate and organic solvents, ionic conductive, stable at low temps.)

RN 80-05-7 HCAPLUS
 CN Phenol, 4,4'-(1-methylethylidene)bis- (9CI) (CA INDEX NAME)

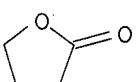


IT 96-47-9, 2-Methyltetrahydrofuran 96-48-0,
 γ-Butyrolactone 96-49-1, Ethylene carbonate
 108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran,
 uses 126-33-0, Sulfolane 4437-85-8, Butylene carbonate
 RL: USES (Uses)
 (solvent, for ionic conductive polymer electrolytes)

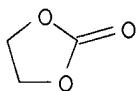
RN 96-47-9 HCAPLUS
 CN Furan, tetrahydro-2-methyl- (8CI, 9CI) (CA INDEX NAME)



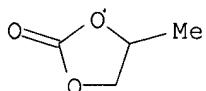
RN 96-48-0 HCAPLUS
 CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 96-49-1 HCAPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



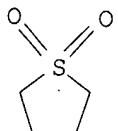
RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



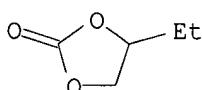
RN 109-99-9 HCAPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 126-33-0 HCAPLUS
 CN Thiophene, tetrahydro-, 1,1-dioxide (8CI, 9CI) (CA INDEX NAME)

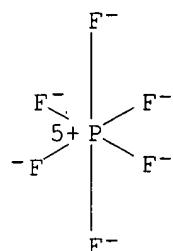


RN 4437-85-8 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-ethyl- (9CI) (CA INDEX NAME)



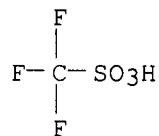
L188 ANSWER 37 OF 43 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 1994:58562 HCAPLUS
 DN 120:58562
 TI Nonaqueous-electrolyte lithium batteries with storage stability
 and charge-discharge efficiency
 IN Watanabe, Hiroshi; Yoshimura, Seiji; Takahashi, Masatoshi; Ooshita, Ryuji;
 Furukawa, Sanehiro
 PA Sanyo Electric Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1
 PATENT NO. KIND DATE APPLICATION NO. DATE
 ----- ----- ----- ----- -----

PI JP 05258753 A 19931008 JP 1991-287933 19911101 <--
 JP 3086510 B2 20000911
 PRAI JP 1991-287933 19911101 <--
 AB The batteries comprise metal oxide cathodes, Li or Li
 -intercalatable anodes, separators, and F-containing lithium salt
 electrolyte dissolved in nonaq. solvents containing ethylene carbonate and S-
 and/or N-containing heterocyclic compds., preferably thiazole, thiazoline,
 thiazolizine, thiophene, and/or their derivs.
 IT 21324-40-3 33454-82-9
 RL: USES (Uses)
 (electrolytes, solvents containing ethylene carbonate and sulfur- and/or
 nitrogen-containing heterocyclic compds. for)
 RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



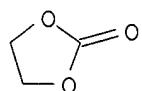
● Li⁺

RN 33454-82-9 HCPLUS
 CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

IT 96-49-1, Ethylene carbonate 288-47-1, Thiazole
 RL: USES (Uses)
 (solvents containing, for electrolytes in lithium batteries)
 RN 96-49-1 HCPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



RN 288-47-1 HCPLUS

CN Thiazole (6CI, 8CI, 9CI) (CA INDEX NAME)

(6)



L188 ANSWER 38 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN
 AN 1993:452959 HCPLUS
 DN 119:52959
 TI Nonaqueous-electrolyte **lithium battery**
 IN Watanabe, Hiroshi; Yoshimura, Seiji; Takahashi, Masatoshi; Ooshita, Ryuji;
 Furukawa, Sanehiro
 PA Sanyo Electric Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05074486	A	19930326	JP 1991-230090	19910910 <--
JP 3066126	B2	20000717		
PRAI JP 1991-230090		19910910 <--		

AB The **batteries** use a mixture containing a main solvent and a 2nd solvent, having similar structure to the main solvent but having unsatd. bond, for their electrolyte. A mixture of ethylene carbonate, butylene carbonate, and MeOC₂H₄OMe containing vinylene carbonate was used in example.

IT 110-00-9, Furan
 RL: USES (Uses)
 (electrolyte solvent mixts. containing, for **lithium batteries**)

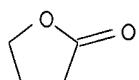
RN 110-00-9 HCPLUS
 CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

(2)

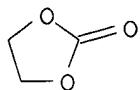


IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran, uses 4437-85-8, Butylene carbonate
 RL: USES (Uses)
 (electrolyte solvent mixts. containing, vinyl carbonate in, for **lithium batteries**)

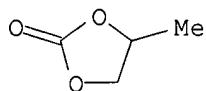
RN 96-48-0 HCPLUS
 CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 96-49-1 HCPLUS
 CN 1,3-Dioxolan-2-one (9CI) (CA INDEX NAME)



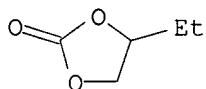
RN 108-32-7 HCPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



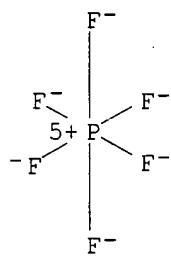
RN 109-99-9 HCPLUS
 CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 4437-85-8 HCPLUS
 CN 1,3-Dioxolan-2-one, 4-ethyl- (9CI) (CA INDEX NAME)



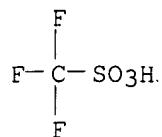
IT 21324-40-3 33454-82-9, Trifluoromethanesulfonic acid lithium salt
 RL: USES (Uses)
 (electrolyte, solvent mixts. for, in lithium batteries)
 RN 21324-40-3 HCPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 33454-82-9 HCPLUS

CN Methanesulfonic acid, trifluoro-, lithium salt (8CI, 9CI) (CA INDEX NAME)



● Li

L188 ANSWER 39 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN

AN 1992:637171 HCPLUS

DN 117:237171

TI Secondary lithium batteries

IN Sugeno, Naoyuki; Anzai, Masanori; Nagaura, Toru

PA Sony Corp., Japan

SQ Eur. Pat. Appl., 18 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 486950	A1	19920527	EP 1991-119471	19911114 <--
	EP 486950	B1	19940810		
	R: DE, FR, GB				
	JP 04184872	A	19920701	JP 1990-312481	19901117 <--
	JP 3089662	B2	20000918		
	JP 2000268864	A	20000929	JP 2000-65779	19901117 <--
	JP 3356157	B2	20021209		
	JP 04280082	A	19921006	JP 1991-67998	19910307 <--
	JP 3079613	B2	20000821		
	CA 2055305	A1	19920518	CA 1991-2055305	19911112 <--
	CA 2055305	C	20020219		
	US 5292601	A	19940308	US 1991-792628	19911115 <--
PRAI	JP 1990-312481	A	19901117 <--		
	JP 1991-67998	A	19910307 <--		

AB The batteries have Li-intercalatable carbonaceous anodes, Li_{x}MO_2 cathodes ($x = 0.5-1$, M = Co, Ni, and/or Mn), and electrolyte containing a mixed solvent of 15-75 volume% propylene carbonate and di-Et and/or di-Pr carbonate. The carbonaceous material is obtained from furan resins and petroleum pitches and has a spacing of (002) planes of $\geq 3.70 \text{ \AA}$ and any DTA exothermic peak at $\geq 700^\circ$.

The carbonaceous material further comprises 0.2-5.0 weight% P and 0.2-2.0 weight% B.

IT 110-00-9D, Furan, derivs., polymers

RL: USES (Uses)

(carbonaceous materials from, for lithium-intercalating anodes, in batteries)

RN 110-00-9 HCPLUS

CN Furan (7CI, 8CI, 9CI) (CA INDEX NAME)

(2)



IT 7439-93-2, Lithium, uses

RL: USES (Uses)

(carbonaceous materials intercalated with, anodes, for batteries)

RN 7439-93-2 HCPLUS

CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

IT 12057-17-9, Lithium manganese oxide (LiMn₂O₄)12190-79-3, Cobalt lithium oxide (CoLiO₂)

RL: DEV (Device component use); USES (Uses)

(cathodes, for secondary lithium batteries)

RN 12057-17-9 HCPLUS

CN Lithium manganese oxide (LiMn₂O₄) (6CI, 7CI, 9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	4	17778-80-2
Mn	2	7439-96-5
Li	1	7439-93-2

RN 12190-79-3 HCPLUS

CN Cobalt lithium oxide (CoLiO₂) (9CI) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

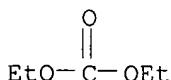
IT 105-58-8, Diethyl carbonate 623-96-1, Dipropyl carbonate

RL: USES (Uses)

(electrolyte solvent containing, propylene carbonate, for lithium batteries)

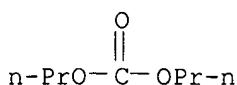
RN 105-58-8 HCPLUS

CN Carbonic acid, diethyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 623-96-1 HCPLUS

CN Carbonic acid, dipropyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



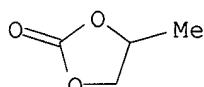
IT 108-32-7, Propylene carbonate

RL: USES (Uses)

(electrolyte solvent, containing di-Et and/or di-Pr carbonate
lithium batteries)

RN 108-32-7 HCPLUS

CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



L188 ANSWER 40 OF 43 HCPLUS COPYRIGHT 2007 ACS on STN

AN 1992:491879 HCPLUS

DN 117:91879

TI Functionalized polyether-type ion-conducting polymer electrolytes

IN Motogami, Kenji; Mori, Shigeo

PA Daiichi Kogyo Seiyaku K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 04068064	A	19920303	JP 1990-180355	19900706 <--
		JP 2923542	B2	19990726

PRAI JP 1990-180355 19900706 <--

AB The title polyethers, being used with soluble electrolyte salts and O- and/or N-containing organic solvents, have low glass-transition temperature (Tg), and are

amorphous polymers obtained by the crosslinking of the active H-containing compound-initiated block or random addition products of glycidyl ethers and C \geq 3 alkylene oxides which bear terminal functional groups. The amorphous nature of the polymers can prevent the sudden decrease of conductivity

at low temperature as seen in crystalline similar polymers. Thus, the KOH-catalyzed

reaction of glycerol initiator 15 with 1,2-epoxybutane 370, then with glycidyl triethylene glycol Me ether 285 g gave a polyether which was esterified with acrylic acid (I) at the OH/I equivalent weight ratio 1.1:1. Heating 3.6 g the acrylate polyether-polyol with 0.12 g LiClO₄ and a MEK solution of photoinitiator under N at 80° for 1 h and in vacuo for 8 h to remove MEK, and impregnating into 1.8 g propylene carbonate gave a title product which showed ion conductivity 1.8x10⁻⁴, 1.0x10⁻⁴, and 5.2x10⁻⁵ s/cm

at 20, 0 and -20°, resp.

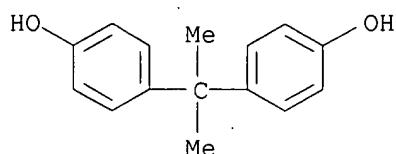
IT 80-05-7D, ether with mixed oxirane compds., polymers, polymer with polyisocyanates, lithium complexes 7439-93-2D,

Lithium, polyether-polyol-based polymer complexes

RL: USES (Uses)

(electrolytes, preparation of ion-conducting and amorphous)

RN 80-05-7 HCAPLUS
 CN Phenol, 4,4'-(1-methylethylidene)bis- (9CI) (CA INDEX NAME)



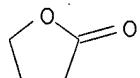
(1)

RN 7439-93-2 HCAPLUS
 CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

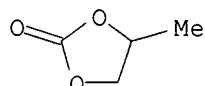
Li

IT 96-48-0 108-32-7, Propylene carbonate
 RL: USES (Uses)
 (solvents, for amorphous polypolyoxyalkylene-polyol-based acrylic polymers or urethane polymer lithium complexes)

RN 96-48-0 HCAPLUS
 CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 108-32-7 HCAPLUS
 CN 1,3-Dioxolan-2-one, 4-methyl- (9CI) (CA INDEX NAME)



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 AN 1991:563107 HCAPLUS
 DN 115:163107
 TI Mixed-solvent electrolytes for ambient-temperature secondary lithium batteries
 IN Shen, David H.; Surampudi, Subbarao; Deligiannis, Fotios; Halpert, Gerald
 PA California Institute of Technology, USA
 SO U.S., 11 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5030528	A	19910709	US 1990-520265	19900507 <--
PRAI US 1990-520265		19900507 <--		
AB	The electrolytes comprise a solvent of a mixture of ethylene carbonate .apprx.5-30 volume%, EPDM rubber .apprx.0.01-0.1 weight%, 2-methylfuran .apprx.0.2-2 volume%, and balance 2-methyltetrahydrofuran and a conductive			